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USAF BIOENVIRONMENTAL NOISE DATA HANDBOOK. VOLUME 134. KC-135A --ETC(U)
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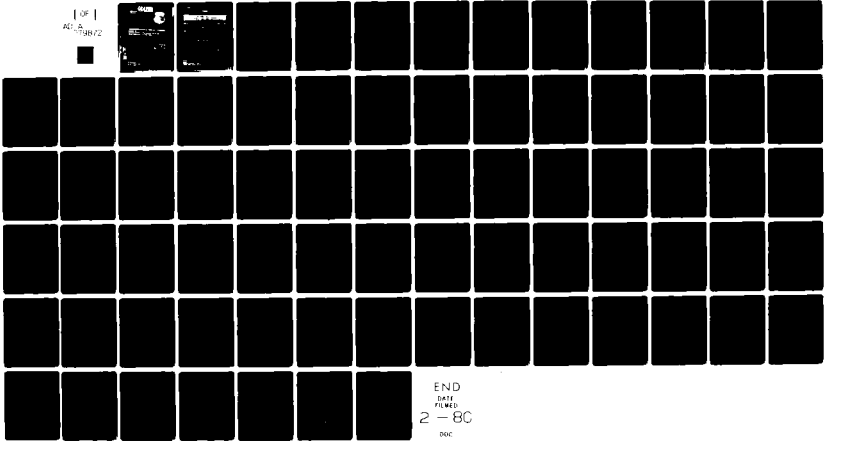

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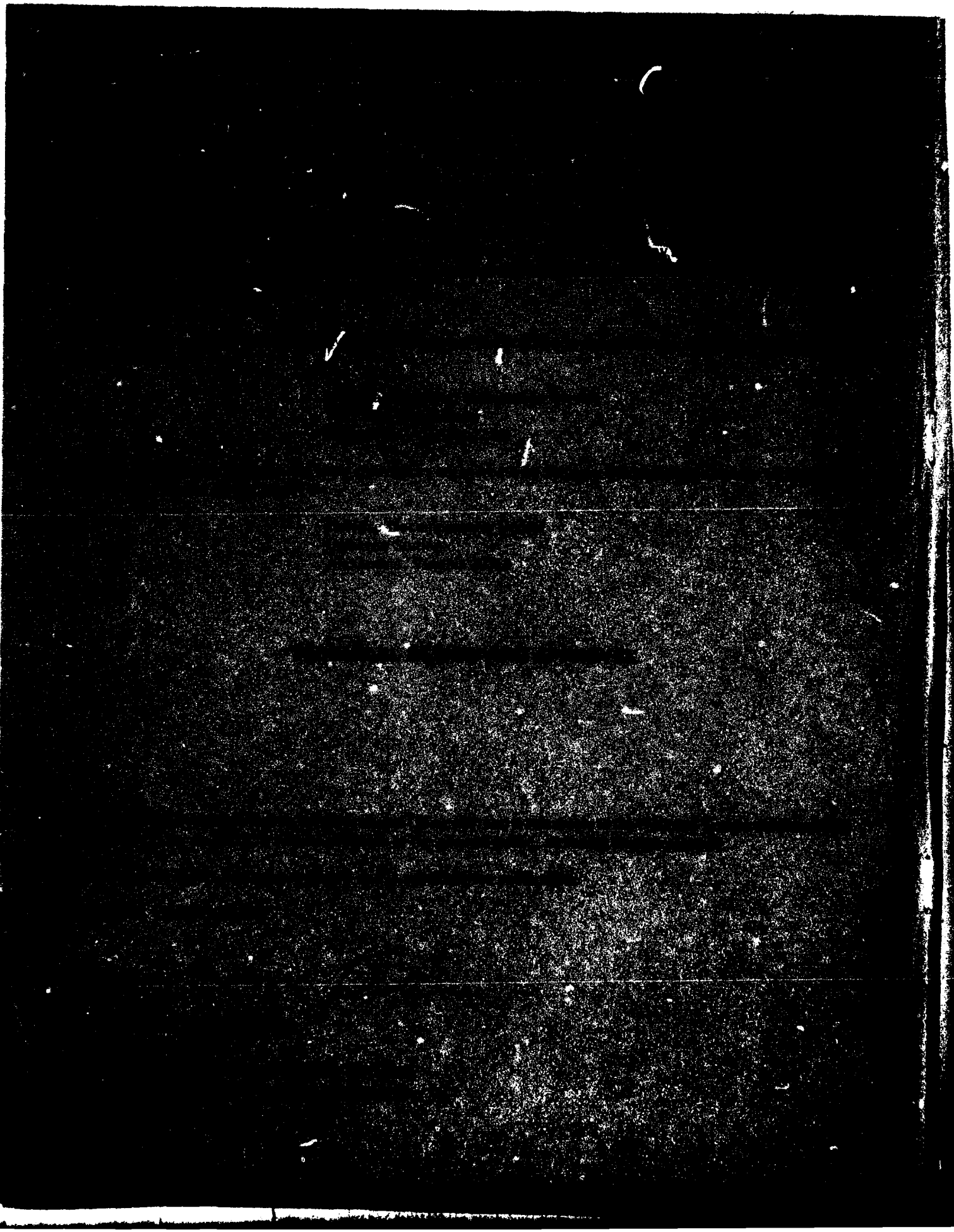

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The AF32A-52A noise suppressor was made by Industrial Acoustics Corporation and modified by the Air Force for acoustical suppression of the KC-135A aircraft. This report provides measured and extrapolated data defining the bioacoustic environments produced by this aircraft operating in an AF32A-52A suppressor for three engine power configurations. Far-field data measured at 19 locations are normalized to standard --

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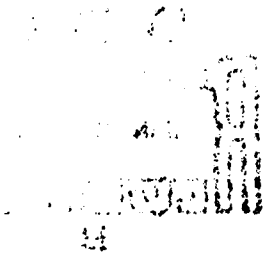
meteorological conditions and extrapolated from 75-8000 meters to derive sets of equal-value contours for seven acoustic measures as functions of angle and distance from the source. Refer to Volume 1 of this handbook, "USAF Bioenvironmental Noise Data Handbook, Vol 1: Organization, Content and Application", AMRL-TR-75-50(1) 1975, for discussion of the objective and design of the handbook, the types of data presented, measurement procedures, instrumentation, data processing, definitions of quantities, symbols, equations, applications, limitations, etc.



PREFACE

This report was prepared by the Biodynamic Environment Branch, Aerospace Medical Research Laboratory, under Project/Task 723107, Technology to Define and Assess Environmental Quality of Noise From Air Force Operations.

The author gratefully acknowledges Mr. John Cole and Mr. Robert Powell for their assistance in preparing this report, Capt. Nick Farinacci for his assistance in acquiring the raw data, Mr. Keith Kettler, Mr. Henry Mohlman and Mr. Fred Lampley of the University of Dayton for assistance in the mechanics of data processing, and Mrs. Peggy Massie for assistance in typing this report.

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INTRODUCTION

The KC-135A is an aerial refueling tanker powered by four Pratt and Whitney J57-P-59W engines. The aircraft is manufactured by the Boeing Company and code named the Stratotanker. The AF32A-52A noise suppressor was made by the Industrial Acoustics Corporation for use by Tactical Air Command (TAC) on the J57-P-21 engines, and has been modified according to specifications developed by the US Navy for use with their F-8 aircraft, which use the J57 engines. The modification consists of replacing the original colander with one fabricated of 1/4-inch cold-rolled steel, perforated with 1/4-inch diameter holes so as to remove approximately 30% of the colander surface area. The modification drawings are on file at the 126 Aerial Refueling Wing (ANG)/MA, O'Hare International Airport, Chicago IL 60666. This modified AF32A-52A portable type suppressor provides noise level reduction for the KC-135A aircraft during ground runup operations.

This volume provides measured and extrapolated data defining bioacoustic environments produced by this aircraft in this suppressor system during ground runup operations. Such data are essential to evaluate ear protection requirements, limiting personnel exposure times, voice communication capabilities, and annoyance problems associated with ground runups of the KC-135A aircraft operating in the AF32A-52A noise suppressor.

This volume is one of a series published by the Aerospace Medical Research Laboratory (AMRL) under the same report number (AMRL-TR-75-50) as a multi-volume handbook that quantifies the noise environments produced at flight/ground crew locations and in surrounding communities by operations of air Force aircraft and ground support equipment. The far-field, community-type noise data in the handbook describe the noise produced during *ground operations* of aircraft, ground support equipment, and other ground-based equipment or facilities.

Volume 1 of this handbook discusses the objectives and design of the handbook, the types of data presented, measurement procedures, instrumentation, data processing, definitions of quantities, symbols, equations, applications, limitations, etc. Volume 2 provides a method and data for adjusting the handbook's *far-field noise data, which are for standing meteorological conditions* (15°C temperature, 70% rel humidity, 0.760 meters Hg barometric pressure), to derive comparable data for other meteorological conditions. *Refer to Volumes 1 and 2* (references 1 and 2) for such information because it is not repeated in other handbook volumes.

A cumulative index lists those aerospace systems contained in the handbook, and identifies the specific volumes containing each type of environmental noise data available (i.e., inflight/flight crew and passenger noise, near-field/ground crew noise, *far-field/community noise*). Volume numbers are assigned sequentially as individual volumes are published. This index is periodically updated as individual volumes are published and is available upon request from AMRL/BBE, Wright-Patterson AFB, OH 45433. Organizations on the distribution list for the handbook will automatically receive a copy of each updated index.

Direct any questions concerning the technical data in this report and other handbook volumes to AMRL/BBE, Wright-Patterson AFB, OH 45433; AUTOVON 78-53675 or 78-53664; Commercial (513) 255-3675 or (513) 255-3664.

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1. Cole, John N., *USAF Bioenvironmental Noise Data Handbook Volume 1: Organization, Content and Application*, AMRL-TR-74-50 (1), Aerospace Medical Research Laboratory, Wright-Patterson Air Force Base, Ohio, 1975.

2. Cole, John N., *USAF Bioenvironmental Noise Data Handbook, Volume 2: Procedure to Evaluate Effects of Non-standard Meteorological Conditions on Far-Field Noise*, AMRL-TR-75-50 (2), AMRL, WPAFB, OH 1975.

FAR-FIELD NOISE

MEASUREMENTS

AMRL acquired the far-field data during a 1- 2-hour test period, thus keeping similar meteorological conditions. Figure 1 shows the aircraft on a concrete parking apron in the suppressor and its orientation relative to 19 microphone measurement sites on a 100 meter (328 feet) semicircle. The center of the semicircle was located on the ground directly beneath the intersection of the aircraft centerline and a plane passing through the exhaust nozzle of the muffler when installed on the inboard engine (#3 engine).

Table 1 provides cockpit readouts of engine characteristics (% RPM, fuel flow, etc.) for each power setting used in the far-field tests. Also listed in this table are the surface meteorological conditions during data acquisition.

All 19 microphone measurement sites are in the acoustic far-field of the source where the sound wave-fronts spherically diverge and the noise source may be regarded as a point source.

A portable microphone/tape-recorder system was used to sequentially record the noise at each far-field location. The microphone was attached to a hand held pole, pointed at the source (0° angle of incidence) and vertically scanned from 0.5 to 3 meters for a period of 5-10 seconds during data acquisition at each microphone location. These samples were then time-integrated to derive a root-mean-square sound pressure level. Vertical scanning and time-integrating together reduce anomalies frequently present in data acquired by a fixed height microphone.

RESULTS

Table 2 lists the overall and 1/3 octave band SPL measured at the far-field locations under meteorological conditions at the time of the test. Data in all other figures and tables are based on these levels. These data were normalized to 100 meters distance and standard meteorological conditions (15°C temperature, 70% relative humidity, 0.760 meter Hg barometric pressure) and used to derive the graphic data in Figure 2 which provides a compact summary of the far-field noise characteristics of the KC-135A aircraft operating in the modified AF32A-52A noise suppressor in a standard format.

Figure 3 and Table 3 present two basic acoustic measures, the acoustic power level and the directivity index, respectively. The acoustic power level describes the power radiated by the source as a function of frequency. The directivity index is a standard acoustical engineering measure that describes the geometric way in which the source radiates this power as a function of both frequency and angle from source. These basic source measures are primarily of interest for acoustical engineers and noise generation/control specialists.

Estimates of the noise levels for intermediate power settings (e.g., 90% RPM) and/or different number of engines operating (e.g., single engine) can be determined as explained in Volume 1 of this handbook.

Figures 4 through 10 are sets of equal noise contours describing seven different measures of noise as a function of angle and distance from the source for standard day meteorology. They are respectively, overall sound pressure level, C-weighted sound level, A-weighted sound level, perceived noise level, speech interference level, permissible exposure times for personnel and octave band sound pressure levels.

Data excessively influenced by spurious background/electronic noise were eliminated from all figures and tables.

Test personnel performed noise surveys during quiet periods when the background noise was minimal. e.g., early in the morning when no other aircraft or engine test stands were operating. Data eliminated because they were near the background/electronic noise were generally not significant because the levels were so low.

Volume 2 of the handbook describes the influence of meteorology on far-field noise environments, and provides, if required, the factors necessary to adjust the handbook's standard meteorological day data.

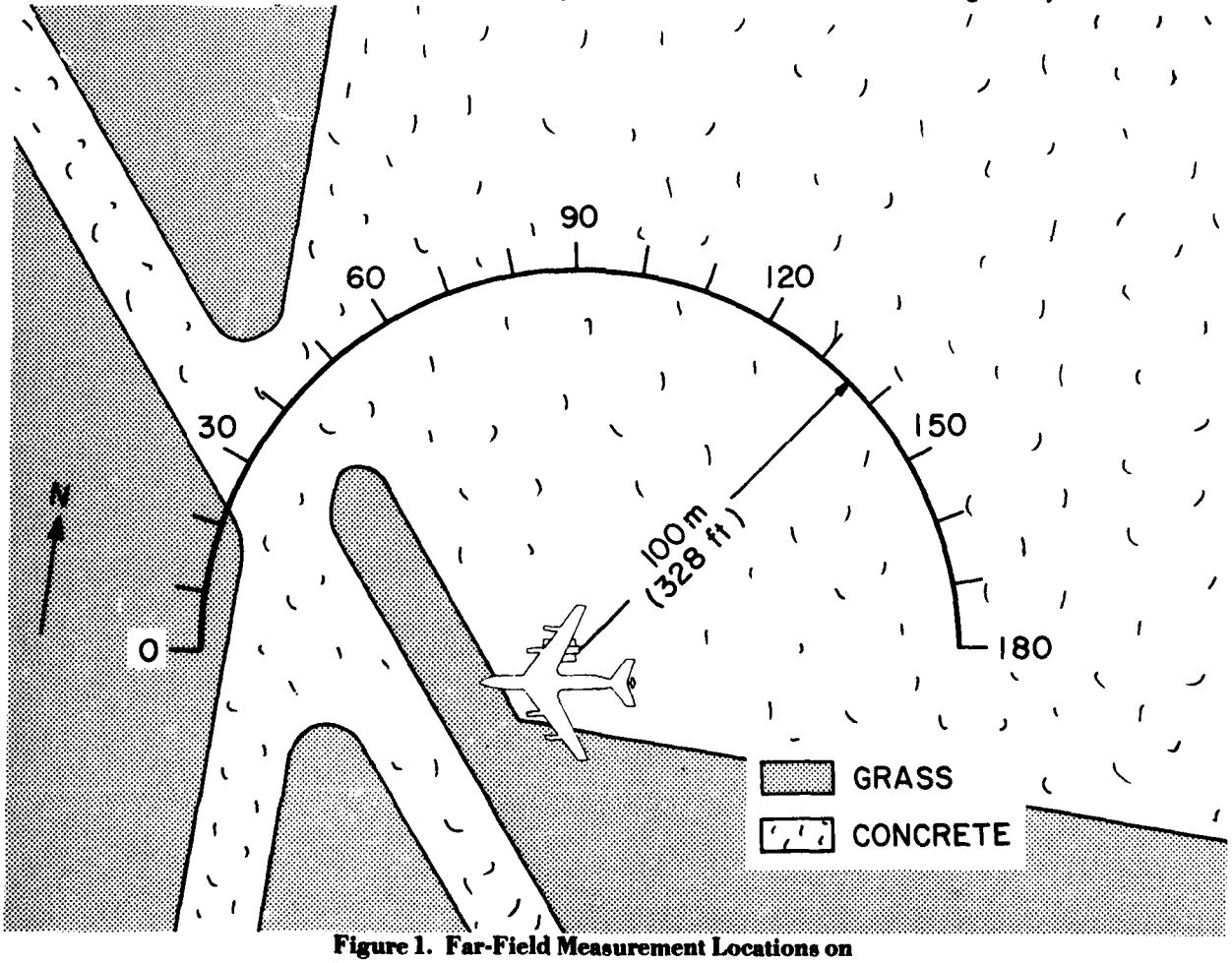


Figure 1. Far-Field Measurement Locations on Parking Apron, O-Hare Int. Airport, Chicago IL

TABLE 1

TEST CONDITIONS
FOR FAR-FIELD NOISE MEASUREMENTS

C-135A Aircraft In The Modified AF32A-52A Noise Suppressor, Ground Runup
O'Hare Int. Arpt., Chicago IL, Test #77-726-001

Aircraft Engine Operation

80% RPM	One Engine 80 % RPM 315 °C EGT 1.22 E.P.R. 2200 LBS/HR Fuel Flow
Military Power (Dry)	One Engine 95.5 % RPM 607 °C EGT 2.35 E.P.R. 8550 LBS/HR Fuel Flow
Military Power (Wet)	One Engine 96.3 % RPM 615 °C EGT 2.79 E.P.R. 13,000 LBS/HR Fuel Flow

Meteorology

Temperature	31 C
Bar Pressure	0.742 M Hg
Rel Humidity	52 %
Wind — Speed	3.5 M/Sec (7 Kt)
— Direction	250 Deg

TABLE: 2

MEASURED SOUND PRESSURE LEVEL (DB)
1/3 OCTAVE BAND
DISTANCE = 100 METERS

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-001
RUN 01
14 SEP 78
PAGE 2

NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE
(MODIFIED) AF32A-52
NOISE SUPPRESSOR
FAR-FIELD NOISE

OPERATION:
80% RPM
INBOARD ENGINE WITH
SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 31 C
BAR PRESS = .742 M HG
REL HUMID = 52 %

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25																			
31.5							71<			70<				70<			69<		
40									73<	75<			73<	75<	77<				
50							75<	75<	75<	77<	73<	73<		73<	77<	76<			
63	70<		70<	72<		72<	71<	70<	72<	77<	75<	76<	78<	79<	78<	78<	75<	71<	
80	73<	71<	75<	71<	76<	73<	73<	73<	75<	80<	77<	77<	76<	81	81	78<	75<	70<	
100		72<	72<	73<		74<	72<			77<	74<	74<	77<	80<	80<	76<	73<		
125	74<	76<		73<	75<	74<				76<	75<	76<	80<	82<	84	79<			
160	72<	72<	72<	71<	70<	69<	68<	68<	69<	76	75<	75<	78	80	81	77	74<	68<	
200	69<	71<	70<	68<	67<	69<	68<	69<	71<	76	73<	74	76	78	78	75	73<	72<	
250	71<	72<	69<	68<	69<	69<	68<	69<	72<	73<	72<	76	80	81	78	77	73<	74<	
315	72	74	72	71<	68<	68<	67<	68<	70<	73	72	77	83	84	77	77	74	71<	61<
400	72	72	72	70	67<	67<	67<	67<	70	73	73	74	80	85	79	76	74	68	62<
500	73	72	72	71	67	68	65<	67	71	74	75	72	79	82	78	74	71	66	62<
630	75	74	76	73	68	71	67	69	74	75	76	75	78	82	77	73	73	67	62<
800	74	74	77	75	69	73	69	69	74	75	74	75	78	82	79	73	72	66	63<
1000	75	74	78	76	70	76	70	69	71	73	73	74	77	78	76	72	69	64<	60<
1250	78	79	82	78	70	76	71	67	71	71	73	72	76	77	74	71	69	64	60<
1600	83	84	86	85	77	83	76	73	78	75	75	71	76	77	75	75	73	65	62
2000	86	89	88	93	85	92	82	80	85	81	82	74	82	77	80	81	79	69	67
2500	80	79	85	81	77	82	76	72	74	72	74	70	75	75	74	72	69	62	61
3150	79	78	86	82	75	83	78	75	76	73	73	69	76	75	74	69	67	61	62
4000	86	86	92	89	82	92	88	86	88	83	81	74	79	78	76	72	69	65	68
5000	80	78	86	85	76	84	79	77	77	73	73	71	77	75	74	68	66	59	60
6300	80	77	84	82	75	82	76	75	77	74	79	79	86	85	84	77	74	65	64
8000	78	75	81	80	72	80	75	72	73	69	71	68	7[illegible]	[illegible]3	72	66	63	56	55
10000	75	72	78	75	68	77	70	67	69	66	67	64	70	69	69	64	60	54	52
OVERALL	92	93	96	96	89	96	91	89	92	90	89	88	93	94	92	89	86	81	75

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: 2

MEASURED SOUND PRESSURE LEVEL (DB)
1/3 OCTAVE BAND
DISTANCE = 100 METERS

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-001
RUN 02
14 SEP 78
PAGE 2

NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE
(MODIFIED) AF32A-52
NOISE SUPPRESSOR
FAR-FIELD NOISE

OPERATION:
MILITARY POWER (DRY),
96% RPM, INBOARD ENGINE
WITH SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 31 C
BAR PRESS = .742 M HG
REL HUMID = 52 %

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25	73<	75<	75<	73<	80<	76<	77<	83	78<	77<	76<	79<	81<	76<	77<	77<	78<	73<	74<
31.5	78<	78<	77<	75<	79<	77<	76<	81	78<	77<	77<	80	82	82	81	77<	76<	73<	
40	83	80<	78<	78<	79<	78<	77<	81<	80<	79<	81<	82<	86	85	88	81<	76<		
50	86	81<	78<	84	80<	83	83	85	84	85	86	84	86	84	91	86	77<		
63	82	79<	82	83	80<	83	80<	80<	83	85	85	88	89	87	89	86	79<		
80	82	81	83	81	82	82	80<	80<	81	85	85	86	89	89	88	84	81		
100	84	84	83	84	82<	84	81<	81<	83	85	86	87	91	91	90	84	80<		
125	84	84	81<	83<	83<	83<	82<	80<	83<	84	86	90	93	93	93	86	80<		
160	82	83	82	83	83	81	80	80	82	84	86	90	92	94	90	85	78	66<	
200	80	81	82	81	80	80	79	79	83	83	85	88	90	92	87	84	77	68<	63<
250	82	83	82	82	83	80	80	78	83	84	86	92	94	92	88	85	77	68<	67<
315	81	82	80	82	81	78	78	76	80	83	84	94	95	93	88	85	77	70<	69<
400	78	80	77	77	78	74	76	72	77	83	95	92	94	92	86	84	77	68<	67<
500	76	77	75	75	76	72	74	70	77	84	87	90	91	89	85	82	74	63<	66
630	75	77	74	74	74	71	74	69	78	84	87	89	89	88	83	81	74	64<	65
800	75	77	75	75	74	71	75	69	77	82	85	90	87	88	82	80	74	65<	64<
1000	73	76	75	75	72	71	77	69	75	81	83	89	85	87	81	80	74	66<	63<
1250	74	74	73	74	70	69	74	68	74	80	82	89	83	86	80	80	73	68	63
1600	73	74	74	75	70	69	72	67	74	80	81	87	83	85	80	79	75	68	62
2000	75	77	78	78	73	74	76	70	75	79	81	87	83	85	80	79	74	65	62
2500	83	85	87	86	82	83	87	79	82	83	80	86	83	86	82	82	75	67	65
3150	81	83	84	84	80	80	85	78	80	82	79	84	81	84	79	81	74	65	63
4000	74	77	77	78	72	73	77	69	73	76	77	81	79	82	76	75	71	61	59
5000	74	78	79	79	73	74	77	70	71	74	73	78	76	78	73	72	68	57	56
6300	72	75	76	76	71	72	76	69	71	74	73	77	75	77	72	71	68	56	55
8000	70	72	74	73	68	69	73	65	66	69	69	74	72	73	69	67	64	53	51
10000	67	69	70	70	64	66	69	62	63	67	67	71	71	72	68	66	64	50	49
OVERALL	94	94	94	94	93	93	94	92	94	96	98	102	103	103	100	96	91	80	78

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: 2

MEASURED SOUND PRESSURE LEVEL (DB)
1/3 OCTAVE BAND
DISTANCE = 100 METERS

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-001
RUN 03
14 SEP 78
PAGE 2

NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE
(MODIFIED) AF32A-52
NOISE SUPPRESSOR
FAR-FIELD NOISE

OPERATION:
MILITARY POWER (WET),
96% RPM, INBOARD ENGINE
WITH SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 31 C
BAR PRESS = .742 M HG
REL HUMID = 52 %

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25	77<	79<	78<	79<	78<	81<	83	85	85	83	85	84	83	84	82<	83	83	81<	78<
31.5	81	83	79<	78<	80<	81	81	81	81	81	83	86	86	87	87	82	83	81	77<
40	86	86	81<	80<	83	81<	84	90	91	88	90	90	90	92	93	88	83	81<	72<
50	88	87	80<	90	86	90	93	95	94	92	95	95	91	97	96	93	86	81<	73<
63	86	85	85	89	86	88	85	86	89	91	93	96	98	96	97	91	88	03	79<
80	87	84	86	83	87	86	87	87	88	90	92	92	93	97	95	89	83	83	73<
100	86	87	87	85	87	88	87	87	88	90	91	94	97	97	95	88	82<	85	
125	86	87	83<	84	86	86	85	86	87	89	91	94	96	99	96	89	81<	86	
160	83	85	84	83	85	84	85	88	87	88	93	96	97	99	93	89	81	86	72<
200	81	82	82	81	83	83	84	86	87	87	89	92	95	97	92	88	80	80	70<
250	83	83	82	81	83	83	82	85	86	86	88	94	96	96	93	89	81	80	72<
315	82	83	81	80	82	82	80	83	84	87	89	97	98	95	94	89	81	78	72
400	81	82	78	78	80	79	79	81	82	87	90	97	99	95	92	89	81	75	72
500	79	79	76	75	77	77	77	80	82	88	93	96	98	94	93	89	81	74	70
630	77	77	73	74	74	76	77	80	82	88	92	96	95	93	91	87	79	72	69
800	76	78	73	74	73	76	78	81	81	88	91	96	94	92	89	85	79	71	69
1000	74	76	71	72	72	76	77	81	78	87	90	96	92	91	88	84	78	70	68
1250	74	75	70	70	70	74	76	80	76	86	90	95	91	91	88	85	78	70	68
1600	74	75	69	70	71	76	77	81	75	86	89	95	91	90	88	84	79	70	67
2000	75	76	71	71	72	76	78	81	75	86	88	94	90	89	88	84	79	71	67
2500	80	80	74	74	75	79	81	84	76	86	87	93	90	89	88	83	79	71	67
3150	82	83	78	78	79	82	84	86	77	85	86	92	89	88	87	84	79	70	67
4000	76	78	73	71	73	77	80	84	76	83	84	91	87	87	85	81	76	68	64
5000	72	73	69	68	69	73	76	78	71	79	80	86	83	83	81	78	72	64	60
6300	71	73	70	67	68	73	75	76	69	78	78	85	81	81	81	77	72	63	59
8000	67	69	66	63	67	70	72	75	67	74	74	80	77	79	81	81	76	62	55
10000	64	66	62	61	64	67	67	70	63	71	70	77	74	74	73	72	65	56	51
OVERALL	96	96	94	96	96	97	98	100	100	101	104	108	108	108	106	101	95	94	86

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

FIGURE: NORMALIZED FARFIELD NOISE LEVELS

2

DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE
(MODIFIED) AF32A-52
NOISE SUPPRESSOR
FAR-FIELD NOISE

OPERATION:
80% RPM
INBOARD ENGINE WITH
SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-001
RUN 01
14 SEP 78
PAGE 6

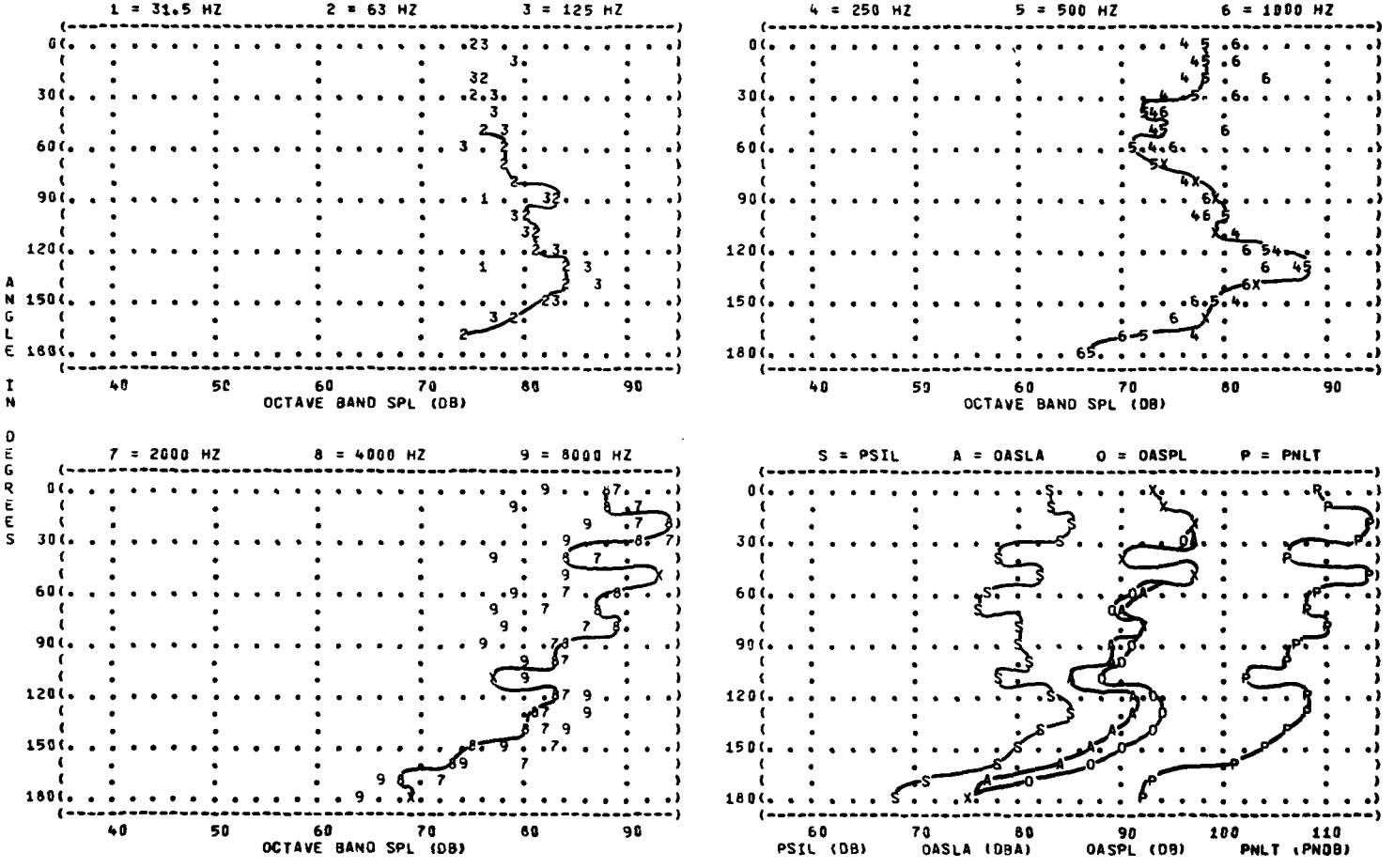


FIGURE: NORMALIZED FARFIELD NOISE LEVELS

2 DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE
(MODIFIED) AF32A-52
NOISE SUPPRESSOR
FAR-FIELD NOISE

OPERATION:
MILITARY POWER (DRY),
96% RPM, INBOARD ENGINE
WITH SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-001
RUN 02
14 SEP 78
PAGE 6

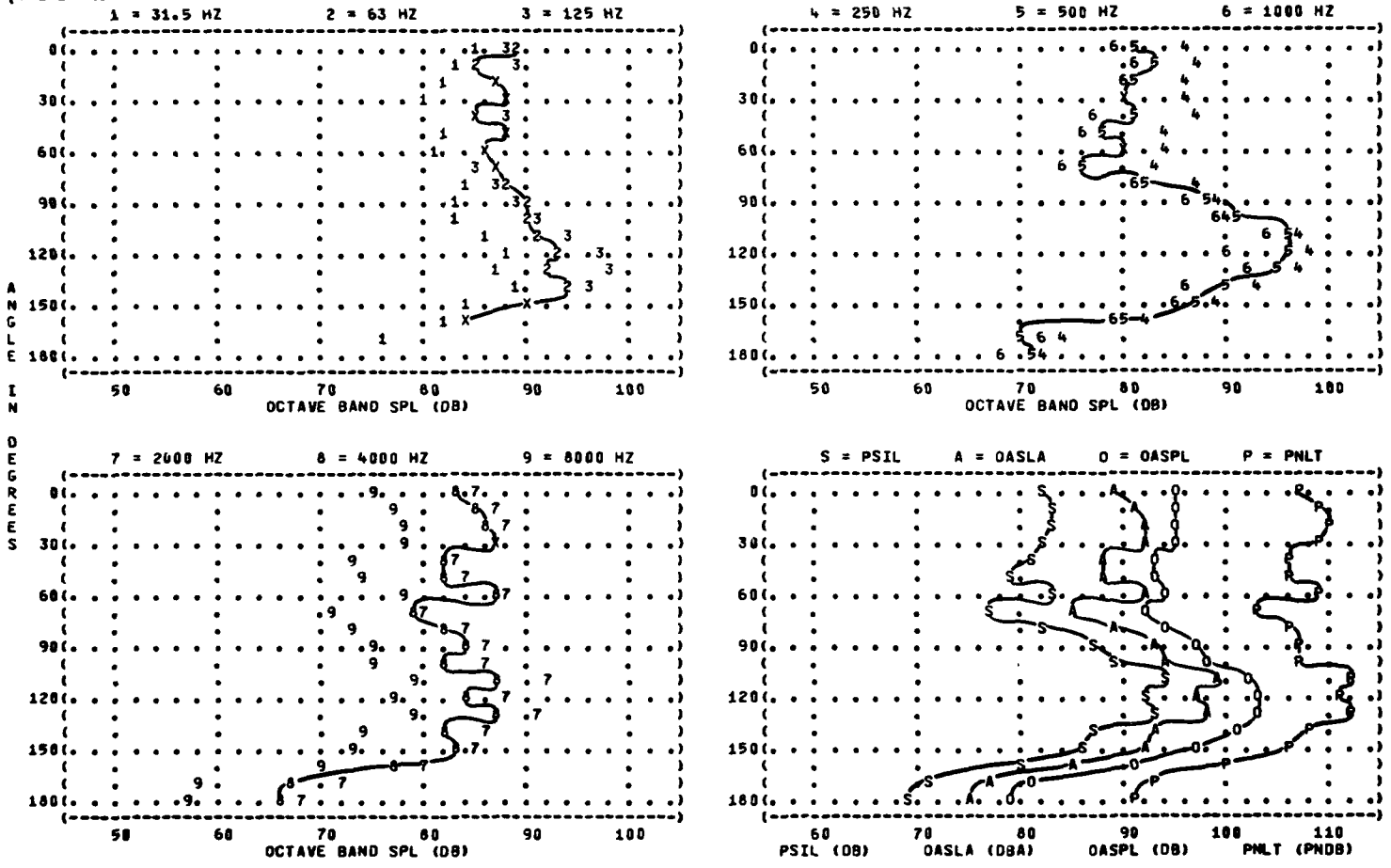


FIGURE: NORMALIZED FARFIELD NOISE LEVELS

2 DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE
(MODIFIED) AF32A-52
NOISE SUPPRESSOR
FAR-FIELD NOISE

OPERATION:
MILITARY POWER (WET),
96% RPM, INBOARD ENGINE
WITH SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-001
RUN 03
14 SEP 78
PAGE 6

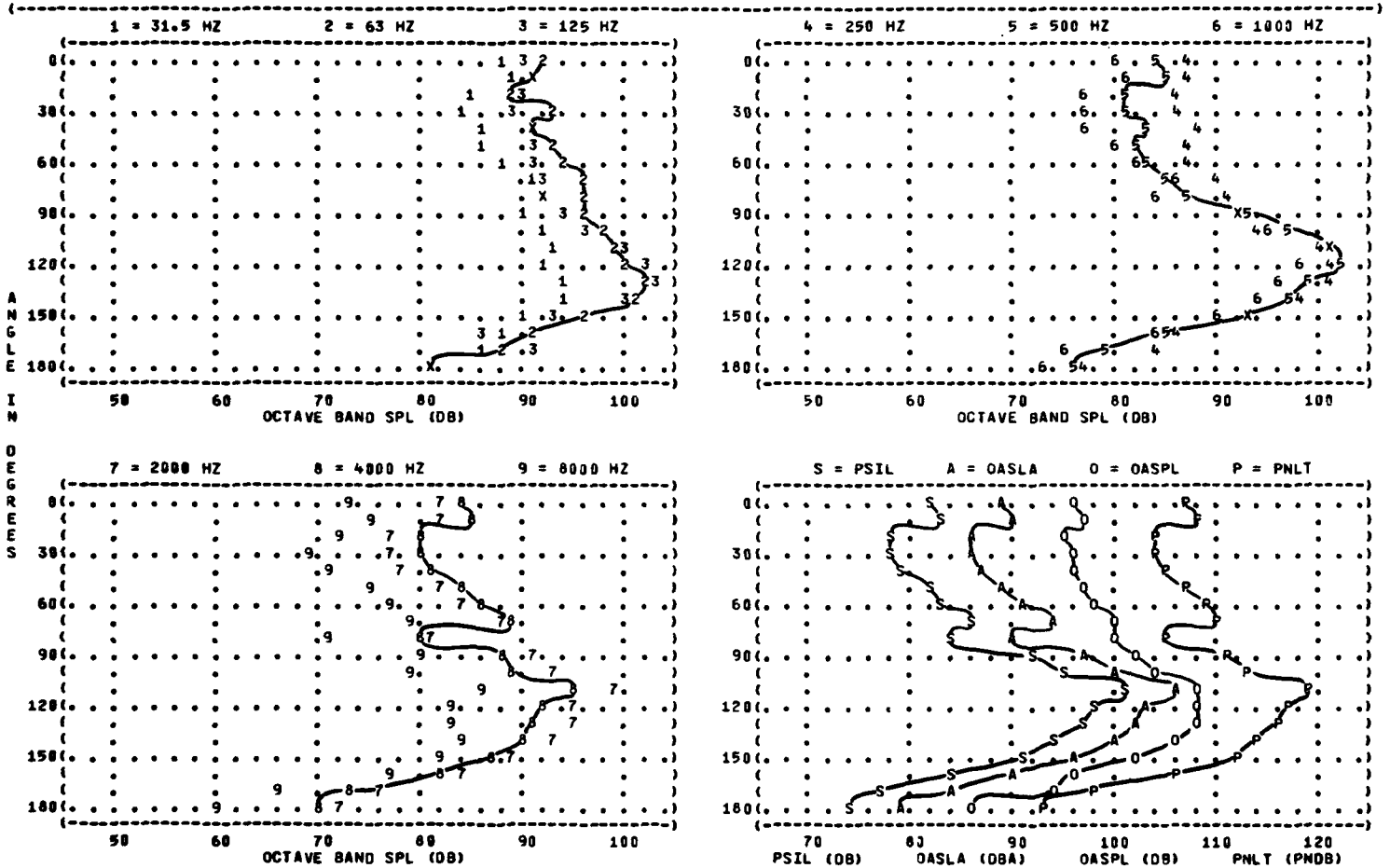


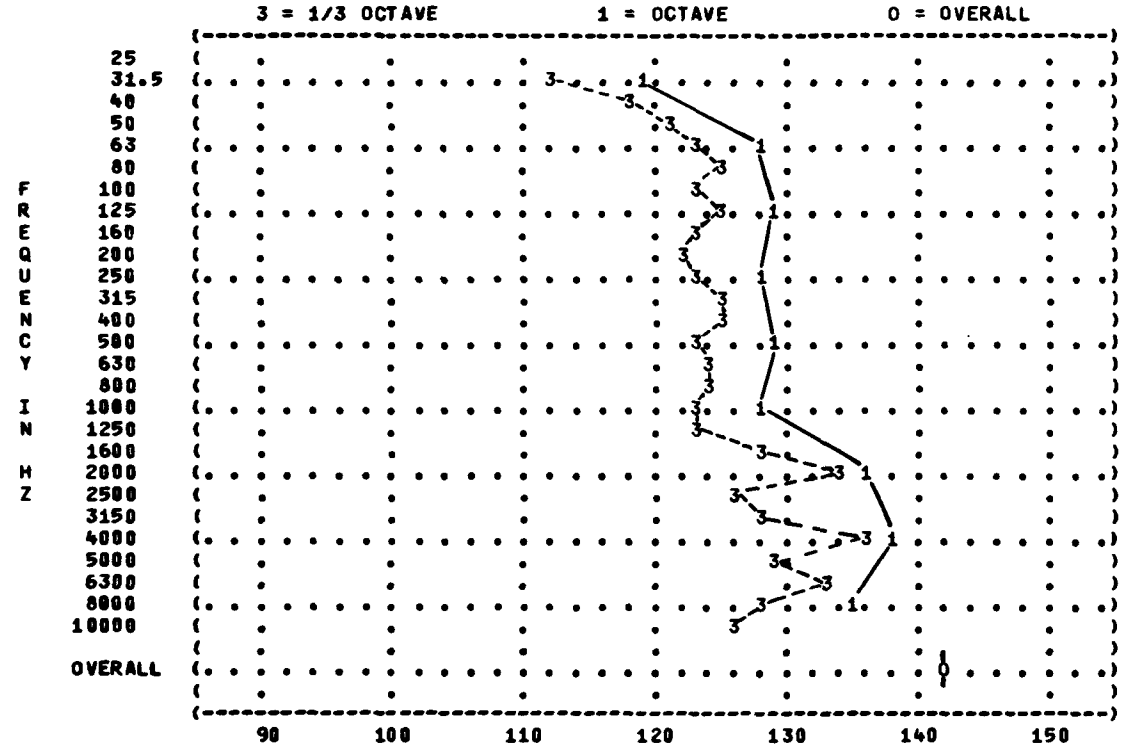
FIGURE 3 ACOUSTIC POWER LEVEL (PWL)

NOISE SOURCE/SUBJECT: KC-135A AIRCRAFT IN THE (MODIFIED) AF32A-52 NOISE SUPPRESSOR FAR-FIELD NOISE

OPERATION: 80% RPM INBOARD ENGINE WITH SUPPRESSOR MOUNTED

METEOROLOGY: TEMP = 31 C; BAR PRESS = .742 M HG; REL HUMID = 52 %

IDENTIFICATION: OMEGA 1.4; TEST 77-726-001; RUN 01; 14 SEP 78; PAGE 3



	PWL 1/3 OCTAVE	PWL OCTAVE
25		
31.5	112.2	119.2
40	118.2	
50	121.3	
63	123.2	128.2
80	125.0	
100	123.1	
125	125.1	128.7
160	123.4	
200	121.7	
250	123.3	128.3
315	124.9	
400	124.7	
500	123.2	128.7
630	123.7	
800	124.0	
1000	123.8	128.0
1250	122.9	
1600	127.6	
2000	134.4	135.7
2500	126.3	
3150	127.5	
4000	136.4	137.7
5000	129.5	
6300	132.8	
8000	127.5	134.6
10000	125.8	
OVERALL		142.0

FREQUENCY

FIGURE: ACOUSTIC POWER LEVEL (PWL)

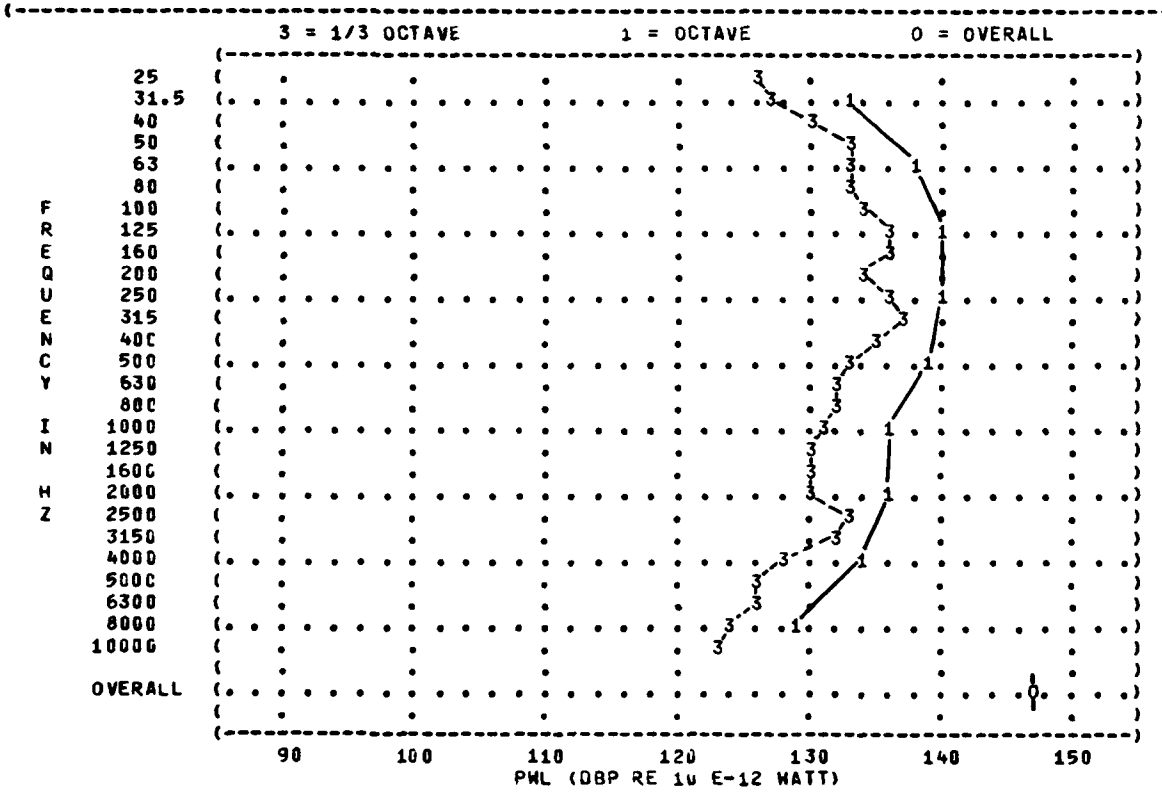
3

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-001
RUN 02
14 SEP 78
PAGE 3

NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE
(MODIFIED) AF32A-52
NOISE SUPPRESSOR
FAR-FIELD NOISE

OPERATION:
MILITARY POWER (DRY),
96% RPM, INBOARD ENGINE
WITH SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 31 C
BAR PRESS = .742 M HG
REL HUMID = 52 %



	PWL 1/3 OCTAVE	PWL OCTAVE
25	126.5	
31.5	127.1	132.8
40	129.8	
50	132.9	
63	133.0	137.7
80	132.9	
100	134.3	
125	135.9	140.1
160	135.5	
200	133.7	
250	135.7	140.2
315	136.5	
400	135.3	
500	133.4	138.6
630	132.4	
800	132.0	
1000	130.9	135.9
1250	130.2	
1600	129.7	
2000	129.9	136.0
2500	133.2	
3150	131.8	
4000	127.7	134.0
5000	126.2	
6300	126.0	
8000	124.0	129.4
10000	123.4	
OVERALL		146.7

FIGURE: ACOUSTIC POWER LEVEL (PWL)

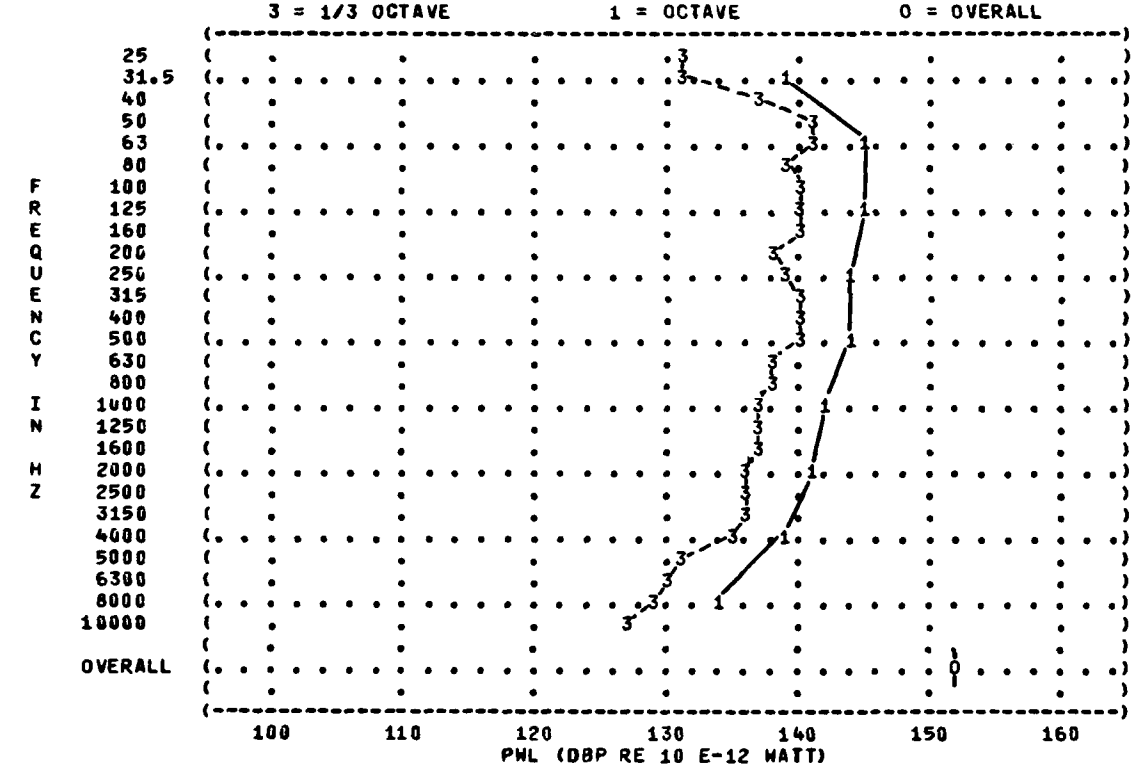
3

NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE
(MODIFIED) AF32A-52
NOISE SUPPRESSOR
FAR-FIELD NOISE

OPERATION:
MILITARY POWER (WET),
96% RPM, INBOARD ENGINE
WITH SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 31 C
BAR PRESS = .742 M HG
REL HUMID = 52 %

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-001
RUN 03
14 SEP 78
PAGE 3



	PWL 1/3 OCTAVE	PWL OCTAVE
25	131.0	
31.5	131.4	138.7
40	136.8	
50	141.4	
63	140.7	145.2
80	139.0	
100	139.8	
125	140.2	144.9
160	140.4	
200	138.1	
250	138.6	143.6
315	139.8	
400	140.0	
500	139.6	144.1
630	138.1	
800	137.9	
1000	137.1	142.1
1250	136.8	
1600	136.6	
2000	136.2	141.1
2500	136.3	
3150	136.2	
4000	134.9	139.3
5000	131.0	
6300	130.4	
8000	129.2	133.8
10000	126.5	
OVERALL		152.1

TABLE: DIRECTIVITY INDEX (DB)

3

NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE
(MODIFIED) AF32A-52
NOISE SUPPRESSOR
FAR-FIELD NOISE

OPERATION:
80% RPM
INBOARD ENGINE WITH
SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 31 C
BAR PRESS = .742 M HG
REL HUMID = 52 %

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-001
RUN 01
14 SEP 78
PAGE 4

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
1/3 OCTAVE																			
25																			
31.5							6			6				6			5		
40									3	5			2	5	6				
50							2	2	1	4	0	-1		0	4	3			
63	-5		-5	-3		-3	-4	-5	-3	2	-1	1	3	4	3	3	0	-4	
80	-4	-6	-2	-6	-1	-3	-4	-4	-2	3	0	0	-1	4	4	1	-2	-7	
100		-3	-3	-2		-1	-3			2	-1	-1	2	5	5	1	-2		
125	-3	-1		-4	-2	-3				-1	-2	-1	3	5	7	2			
160	-4	-3	-3	-5	-6	-7	-8	-7	-6	1	-1	0	2	5	6	2	-1	-7	
200	-4	-3	-4	-5	-7	-5	-5	-5	-3	2	-1	1	2	4	4	2	-1	-2	
250	-4	-4	-6	-7	-6	-6	-7	-6	-4	-2	-3	0	4	6	3	2	-2	-1	
315	-4	-3	-4	-6	-8	-9	-10	-9	-6	-4	-4	0	6	7	0	0	-3	-5	-16
400	-4	-5	-5	-6	-10	-10	-10	-10	-7	-3	-4	-2	3	9	2	-1	-2	-8	-15
500	-2	-3	-3	-4	-8	-7	-9	-8	-4	-1	0	-3	4	7	3	-1	-4	-9	-13
630	0	-1	0	-2	-7	-5	-8	-7	-2	0	1	0	3	7	1	-2	-2	-9	-13
800	-1	-1	1	0	-7	-3	-6	-6	-2	-1	-1	0	3	6	4	-2	-3	-9	-13
1000	0	0	4	1	-5	1	-4	-5	-3	-1	-1	-1	3	4	1	-2	-5	-10	-15
1250	4	4	7	4	-4	1	-4	-7	-4	-3	-1	-3	2	3	0	-3	-5	-10	-14
1600	4	6	7	6	-2	5	-3	-6	-1	-3	-3	-7	-3	-2	-3	-4	-6	-13	-17
2000	1	4	2	7	0	6	-3	-6	0	-4	-3	-11	-4	-8	-5	-4	-7	-16	-18
2500	4	2	8	5	0	5	-1	-4	-3	-5	-3	-6	-2	-2	-2	-5	-8	-14	-15
3150	2	1	8	5	-2	6	0	-2	-1	-4	-4	-8	-2	-3	-4	-8	-10	-17	-16
4000	0	0	6	3	-4	6	2	1	3	-3	-5	-12	-6	-8	-10	-14	-17	-20	-18
5000	1	0	7	6	-3	6	0	-2	-2	-6	-5	-8	-1	-3	-5	-10	-12	-19	-19
6300	-1	-4	3	1	-6	1	-5	-6	-4	-7	-2	-2	5	4	3	-4	-7	-16	-17
8000	3	1	7	5	-2	5	0	-2	-1	-5	-3	-6	0	-1	-2	-8	-11	-18	-19
10000	4	1	7	5	-2	6	-1	-3	-2	-5	-4	-6	-1	-2	-2	-7	-11	-17	-16
OCTAVE																			
31.5										5				5					
63	-6		-4	-5		-4	-2	-2	-1	3	0	0	0	3	3	2	-2	-7	
125	-5	-2	-6	-3	-4	-3	-7			1	-1	-1	3	5	6	2	-4		
250	-4	-3	-5	-6	-7	-7	-8	-7	-4	-1	-3	0	5	6	2	1	-2	-3	
500	-2	-3	-2	-4	-8	-7	-9	-8	-4	-2	-1	-2	3	8	2	-1	-3	-9	-14
1000	1	2	5	2	-5	0	-5	-6	-3	-1	-1	-1	3	5	2	-2	-4	-10	-14
2000	2	4	4	7	0	6	-3	-5	-1	-4	-3	-10	-3	-5	-4	-4	-7	-15	-17
4000	1	0	7	4	-3	6	2	0	2	-3	-5	-11	-5	-6	-8	-12	-15	-20	-18
8000	0	-2	4	2	-5	3	-3	-5	-3	-6	-2	-2	4	4	2	-4	-8	-16	-18
OVERALL	0	1	4	4	-3	4	-1	-3	-1	-2	-3	-4	1	2	0	-3	-6	-11	-16

TABLE: 3 DIRECTIVITY INDEX (DB)

NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE (MODIFIED) AF32A-52 NOISE SUPPRESSOR FAR-FIELD NOISE

OPERATION:
MILITARY POWER (DRY), 96% RPM, INBOARD ENGINE WITH SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 31 C
BAR PRESS = .742 M HG
REL HUMID = 52 %

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-001
RUN 02
14 SEP 78
PAGE 4

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
1/3 OCTAVE																			
25	-5	-3	-3	-6	2	-2	-2	4	0	-2	-3	1	3	-2	-2	-1	0	-6	-5
31.5	-1	-1	-2	-4	0	-2	-3	2	-1	-2	-2	1	3	2	2	-2	-3	-6	
40	1	-1	-4	-4	-3	-4	-5	-1	-2	-3	-1	0	4	3	6	0	-6		
50	1	-4	-7	-1	-5	-2	-2	0	-1	0	1	-1	1	-1	6	1	-8		
63	-3	-6	-3	-2	-5	-2	-5	-5	-2	0	0	3	4	2	4	1	-6		
80	-3	-4	-2	-4	-3	-3	-5	-5	-4	0	0	1	4	4	3	-1	-4		
100	-3	-2	-4	-3	-4	-2	-5	-5	-4	-2	0	1	4	5	4	-2	-6		
125	-4	-4	-7	-5	-5	-5	-6	-8	-5	-4	-2	2	5	5	5	-2	-8		
160	-6	-5	-5	-4	-5	-7	-8	-8	-6	-3	-1	2	5	6	3	-2	-10	-21	
200	-6	-5	-4	-5	-6	-6	-7	-7	-3	-2	-1	3	4	6	2	-2	-9	-17	-23
250	-6	-5	-6	-6	-5	-8	-8	-9	-4	-3	-1	4	6	4	0	-3	-11	-19	-20
315	-8	-7	-8	-7	-7	-10	-10	-13	-9	-5	-4	5	7	4	0	-4	-11	-18	-19
400	-9	-8	-10	-10	-9	-13	-12	-15	-10	-4	-2	5	6	5	-1	-4	-11	-19	-20
500	-9	-8	-10	-10	-10	-13	-11	-15	-8	-2	2	5	6	4	-1	-4	-11	-22	-19
630	-9	-7	-10	-10	-10	-13	-10	-15	-6	0	3	5	5	4	-1	-3	-10	-20	-19
800	-9	-7	-9	-9	-10	-12	-9	-14	-7	-1	2	6	3	5	-2	-3	-10	-19	-20
1000	-9	-6	-7	-7	-11	-11	-6	-13	-7	-1	1	7	3	5	-1	-3	-8	-16	-19
1250	-8	-8	-8	-8	-12	-12	-8	-14	-7	-2	0	7	1	5	-1	-1	-8	-13	-18
1600	-8	-7	-6	-6	-11	-11	-8	-14	-7	-1	0	7	2	5	-1	-2	-6	-13	-18
2000	-6	-3	-3	-3	-8	-7	-5	-10	-6	-2	0	6	2	4	-1	-2	-7	-16	-19
2500	0	2	3	2	-1	-1	3	-5	-2	0	-4	2	-1	2	-2	-2	-8	-17	-19
3150	-1	2	2	3	-2	-1	3	-4	-1	1	-2	2	-1	2	-3	-1	-8	-17	-18
4000	-3	0	0	1	-5	-4	0	-8	-4	-1	0	4	2	5	-1	-2	-6	-16	-18
5000	-1	2	3	4	-2	-1	2	-5	-4	-1	-2	3	1	2	-2	-3	-8	-18	-19
6300	-2	1	2	2	-3	-2	2	-5	-3	0	-1	3	1	3	-2	-3	-6	-18	-19
8000	0	2	3	2	-3	-2	3	-5	-5	-1	-1	3	2	2	-2	-4	-6	-18	-20
10000	-2	0	1	2	-4	-2	0	-6	-6	-1	-1	3	3	4	0	-2	-5	-18	-19
OCTAVE																			
31.5	0	-2	-3	-4	0	-3	-4	2	-1	-2	-2	1	3	2	4	-1	-3	-9	
63	-1	-4	-3	-2	-4	-2	-4	-3	-2	0	1	1	3	2	5	0	-6		
125	-4	-4	-5	-4	-5	-5	-6	-7	-5	-3	-1	2	5	6	4	-2	-8		
250	-6	-6	-6	-6	-6	-8	-8	-9	-5	-4	-2	4	6	5	0	-3	-10	-18	-20
500	-9	-8	-10	-10	-9	-13	-11	-15	-8	-2	1	5	6	5	-1	-3	-10	-20	-19
1000	-9	-7	-8	-8	-11	-12	-7	-14	-7	-1	1	7	2	5	-1	-3	-9	-16	-19
2000	-2	0	1	0	-4	-3	1	-7	-3	-1	-1	5	1	4	-1	-2	-7	-15	-19
4000	-1	1	2	2	-2	-2	3	-5	-2	0	-2	3	0	3	-2	-2	-7	-17	-18
8000	-1	1	2	2	-3	-2	2	-5	-4	-1	-1	3	2	3	-2	-3	-6	-18	-19
OVERALL	-4	-4	-4	-4	-5	-5	-5	-6	-5	-2	-1	4	5	4	2	-2	-8	-18	-20

TABLE: DIRECTIVITY INDEX (DB)

3

NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE (MODIFIED) AF32A-52
NOISE SUPPRESSOR
FAR-FIELD NOISE

OPERATION:
MILITARY POWER (WET),
96% RPM, INBOARD ENGINE
WITH SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 31 C
BAR PRESS = .742 M HG
REL HUMID = 52 %

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-001
RUN 03
14 SEP 78
PAGE 4

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
1/3 OCTAVE																			
25	-6	-4	-5	-4	-5	-2	0	2	1	0	2	1	0	0	-1	-1	0	-2	-5
31.5	-2	0	-4	-6	-4	-3	-2	-3	-3	-3	0	3	3	4	3	-1	0	-3	-6
40	-3	-3	-8	-9	-6	-8	-5	1	2	-1	1	1	1	3	4	-1	-6	-8	-17
50	-6	-6	-14	-3	-7	-4	-1	2	1	-1	1	1	-2	3	3	0	-8	-12	-20
63	-6	-8	-7	-4	-7	-5	-7	-7	-4	-2	1	3	5	3	5	-2	-5	-9	-14
80	-4	-7	-5	-8	-4	-5	-4	-4	-3	-1	1	1	2	6	4	-2	-8	-8	-18
100	-6	-5	-5	-7	-5	-4	-5	-5	-4	-2	-1	2	5	5	3	-4	-10	-7	
125	-7	-5	-9	-9	-7	-6	-7	-6	-5	-3	-2	2	4	7	4	-3	-11	-6	
160	-9	-7	-8	-9	-8	-8	-7	-5	-5	-4	0	3	4	6	1	-4	-11	-6	-21
200	-9	-8	-8	-9	-7	-7	-6	-4	-3	-3	-1	2	5	7	2	-2	-10	-10	-20
250	-8	-8	-9	-10	-7	-8	-8	-6	-4	-4	-2	3	5	6	3	-1	-9	-10	-18
315	-9	-9	-11	-12	-10	-10	-11	-9	-7	-4	-2	5	6	4	2	-3	-10	-14	-19
400	-11	-10	-13	-14	-12	-13	-13	-11	-9	-5	-2	6	7	4	1	-3	-11	-16	-20
500	-12	-12	-15	-16	-14	-14	-15	-11	-9	-3	2	5	7	3	1	-2	-10	-17	-21
630	-13	-13	-17	-16	-16	-14	-13	-10	-8	-2	2	6	5	3	1	-3	-11	-18	-21
800	-13	-12	-17	-16	-16	-14	-12	-8	-8	-2	2	7	4	2	0	-4	-10	-19	-21
1000	-14	-13	-17	-17	-16	-13	-11	-7	-11	-2	2	7	4	2	0	-4	-10	-18	-20
1250	-14	-13	-18	-18	-18	-14	-12	-8	-12	-2	2	7	3	3	0	-3	-10	-18	-20
1600	-13	-13	-18	-17	-16	-12	-10	-6	-12	-2	1	8	3	2	0	-3	-9	-17	-21
2000	-12	-11	-16	-16	-15	-11	-9	-6	-12	-1	1	7	3	2	1	-3	-8	-16	-20
2500	-7	-7	-12	-13	-12	-8	-6	-3	-11	-1	1	7	3	3	1	-3	-8	-15	-19
3150	-4	-4	-8	-8	-7	-4	-2	0	-9	-2	0	6	2	1	1	-3	-7	-16	-19
4000	-9	-6	-11	-13	-11	-7	-4	-1	-9	-1	0	6	3	2	1	-3	-8	-16	-20
5000	-8	-7	-11	-12	-11	-7	-4	-2	-9	-1	0	6	3	3	1	-2	-8	-16	-20
6300	-8	-6	-9	-12	-10	-5	-4	-2	-10	-1	-1	6	3	3	2	-1	-6	-15	-20
8000	-9	-7	-10	-13	-9	-6	-4	-1	-9	-2	-2	4	1	3	5	5	0	-14	-21
10000	-8	-5	-9	-10	-8	-4	-4	-1	-8	-1	-1	6	3	3	2	1	-6	-15	-20
OCTAVE																			
31.5	-3	-2	-6	-7	-5	-5	-3	0	1	-1	1	2	1	3	3	-1	-3	-5	-9
63	-5	-7	-8	-4	-6	-4	-3	-1	-1	-1	1	2	2	4	4	-1	-6	-10	-16
125	-7	-6	-7	-8	-6	-6	-6	-5	-5	-3	-1	2	5	6	3	-4	-11	-6	
250	-9	-8	-9	-10	-8	-8	-8	-6	-5	-4	-2	4	5	5	2	-2	-10	-11	-19
500	-12	-11	-15	-15	-13	-14	-13	-11	-9	-3	1	5	6	3	1	-3	-11	-17	-20
1000	-14	-13	-17	-17	-17	-13	-12	-8	-10	-2	2	7	4	2	0	-4	-10	-18	-20
2000	-10	-10	-15	-15	-14	-10	-8	-5	-12	-1	1	7	3	2	1	-3	-8	-16	-20
4000	-6	-5	-9	-10	-8	-5	-3	0	-9	-1	0	6	3	2	1	-3	-8	-16	-20
8000	-8	-6	-9	-12	-10	-5	-4	-2	-9	-1	-1	6	2	3	3	2	-3	-15	-20
OVERALL	-7	-7	-9	-8	-8	-7	-6	-4	-4	-2	0	4	4	4	2	-2	-8	-10	-18

FIGURE 4 OVERALL SOUND PRESSURE LEVEL (OASPL) EQUAL LEVEL CONTOURS (DB)

NOISE SOURCE/SUBJECT: KC-135A AIRCRAFT IN THE (MODIFIED) AF32A-52 NOISE SUPPRESSOR FAR-FIELD NOISE

OPERATION: 80% RPM INBOARD ENGINE WITH SUPPRESSOR MOUNTED

METEOROLOGY: TEMP = 15 C, BAR PRESS = .760 M HG, REL HUMID = 70 %

IDENTIFICATION: OMEGA 1.4, TEST 77-726-001, RUN 01, 14 SEP 78

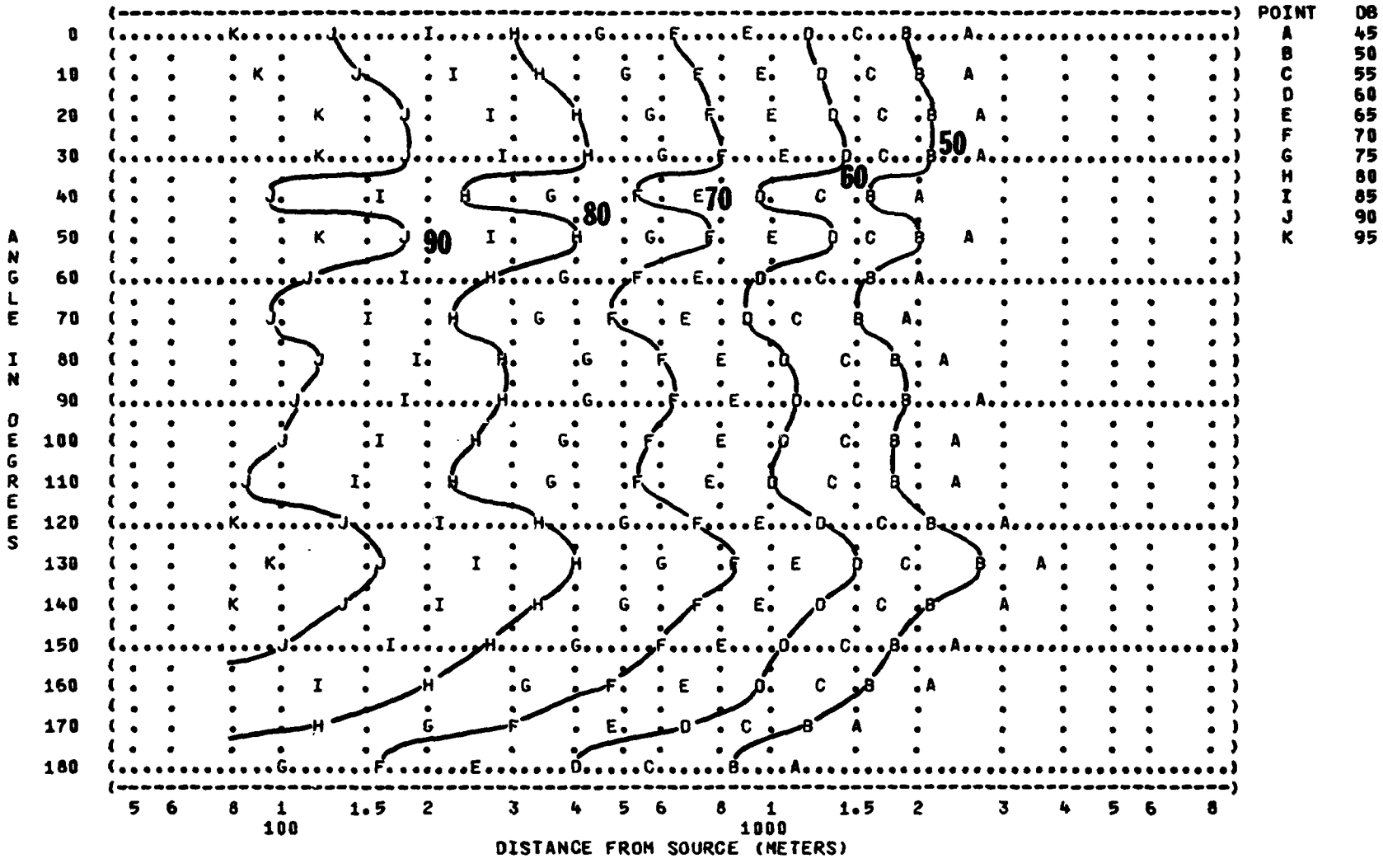


FIGURE 4: OVERALL SOUND PRESSURE LEVEL (OASPL) EQUAL LEVEL CONTOURS (DB)

NOISE SOURCE/SUBJECT: KC-135A AIRCRAFT IN THE (MODIFIED) AF32A-52 NOISE SUPPRESSOR FAR-FIELD NOISE

OPERATION: MILITARY POWER (DRY), 96% RPM, INBOARD ENGINE WITH SUPPRESSOR MOUNTED

METEOROLOGY: TEMP = 15 C; BAR PRESS = .760 M HG; REL HUMID = 70 %

IDENTIFICATION: OMEGA 1.4; TEST 77-726-001; RUN 02; 14 SEP 78; PAGE 13

POINT	DB
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85
J	90
K	95
L	100
M	105

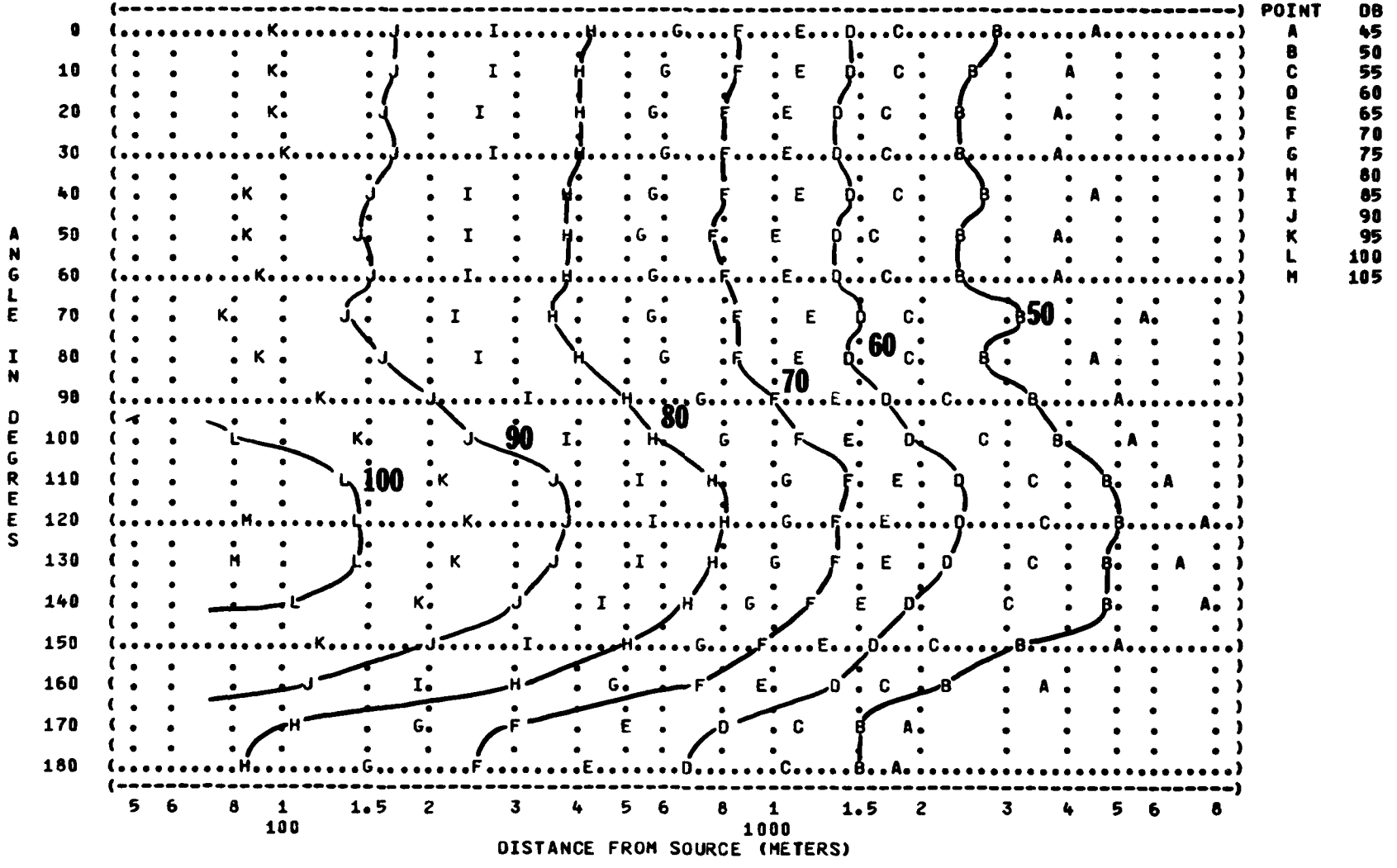


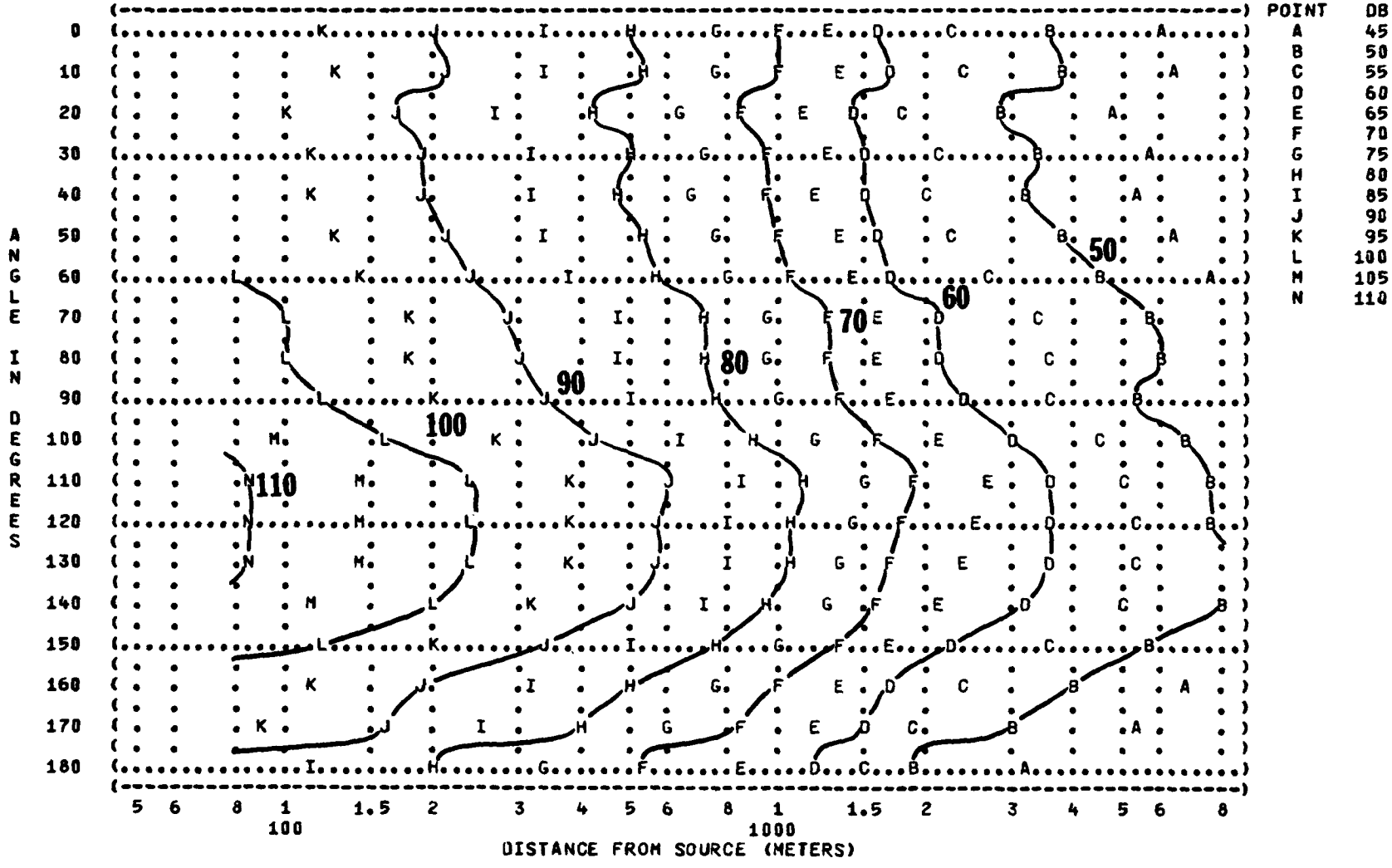
FIGURE 4: OVERALL SOUND PRESSURE LEVEL (OASPL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-001
RUN 03
14 SEP 78
PAGE 13

NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE (MODIFIED) AF32A-52 NOISE SUPPRESSOR FAR-FIELD NOISE

OPERATION:
MILITARY POWER (WET), 96% RPM, INBOARD ENGINE WITH SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %



POINT	DB
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85
J	90
K	95
L	100
M	105
N	110

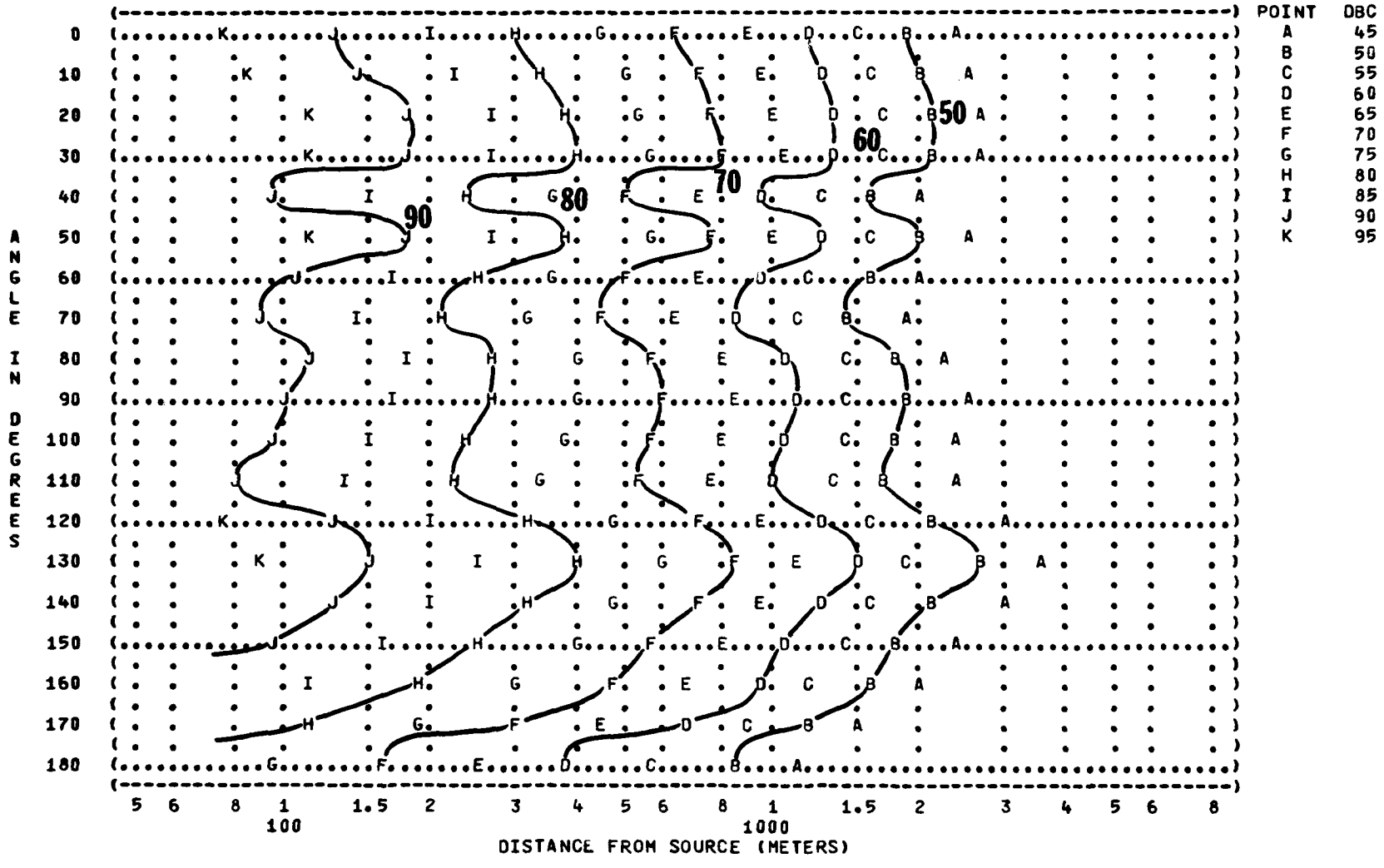
FIGURE: 5 C-WEIGHTED OVERALL SOUND LEVEL (OASLC) EQUAL LEVEL CONTOURS (DBC)

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-001
RUN 01
14 SEP 78
PAGE 14

NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE (MODIFIED) AF32A-52 NOISE SUPPRESSOR FAR-FIELD NOISE

OPERATION:
80% RPM
INBOARD ENGINE WITH SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %



POINT	DBC
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85
J	90
K	95

FIGURE 5 C-WEIGHTED OVERALL SOUND LEVEL (OASLC) EQUAL LEVEL CONTOURS (DBC)

IDENTIFICATION: OMEGA 1.4 TEST 77-726-001 RUN 02 14 SEP 78 PAGE 14

NOISE SOURCE/SUBJECT: KC-135A AIRCRAFT IN THE (MODIFIED) AF32A-52 NOISE SUPPRESSOR FAR-FIELD NOISE

OPERATION: MILITARY POWER (DRY), 96% RPM, INBOARD ENGINE WITH SUPPRESSOR MOUNTED

METEOROLOGY: TEMP = 15 C, BAR PRESS = .760 M HG, REL HUMID = 70 %

POINT	DBC
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85
J	90
K	95
L	100
M	105

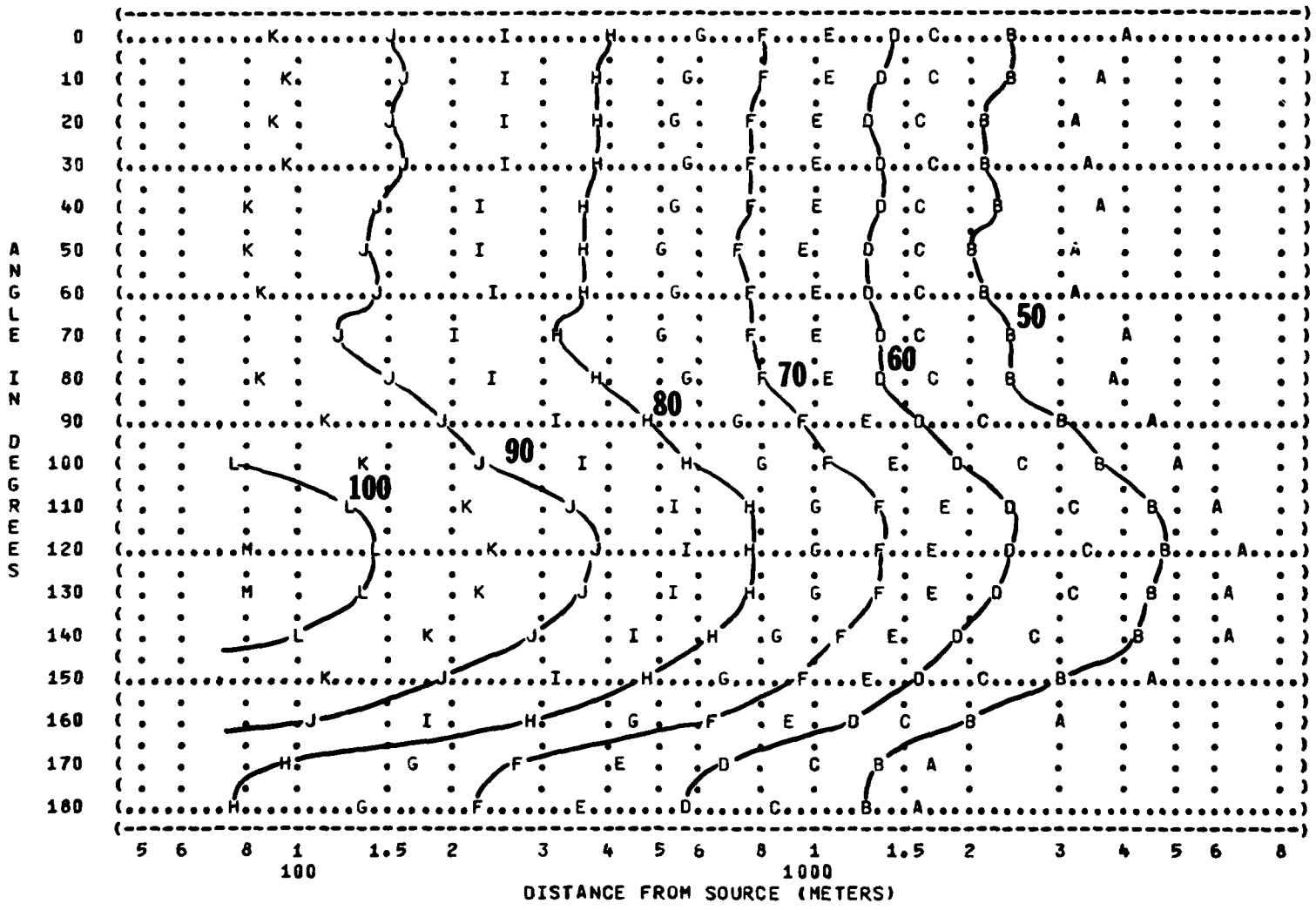


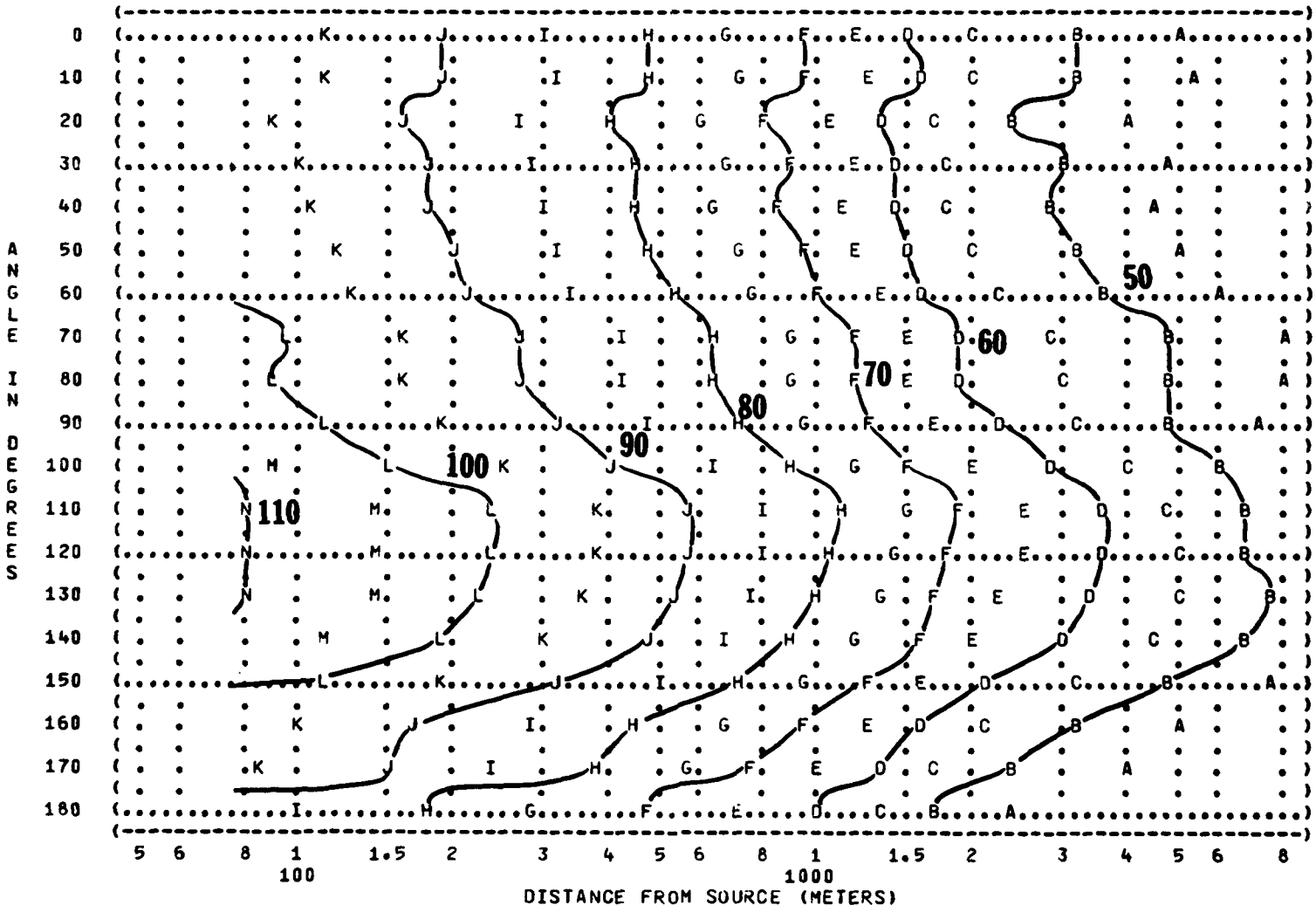
FIGURE: 5 C-WEIGHTED OVERALL SOUND LEVEL (OASLC) EQUAL LEVEL CONTOURS (DBC)

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-001
RUN 03
14 SEP 78
PAGE 14

NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE (MODIFIED) AF32A-52 NOISE SUPPRESSOR FAR-FIELD NOISE

OPERATION:
MILITARY POWER (WET), 96% RPM, INBOARD ENGINE WITH SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %



POINT	DBC
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85
J	90
K	95
L	100
M	105
N	110

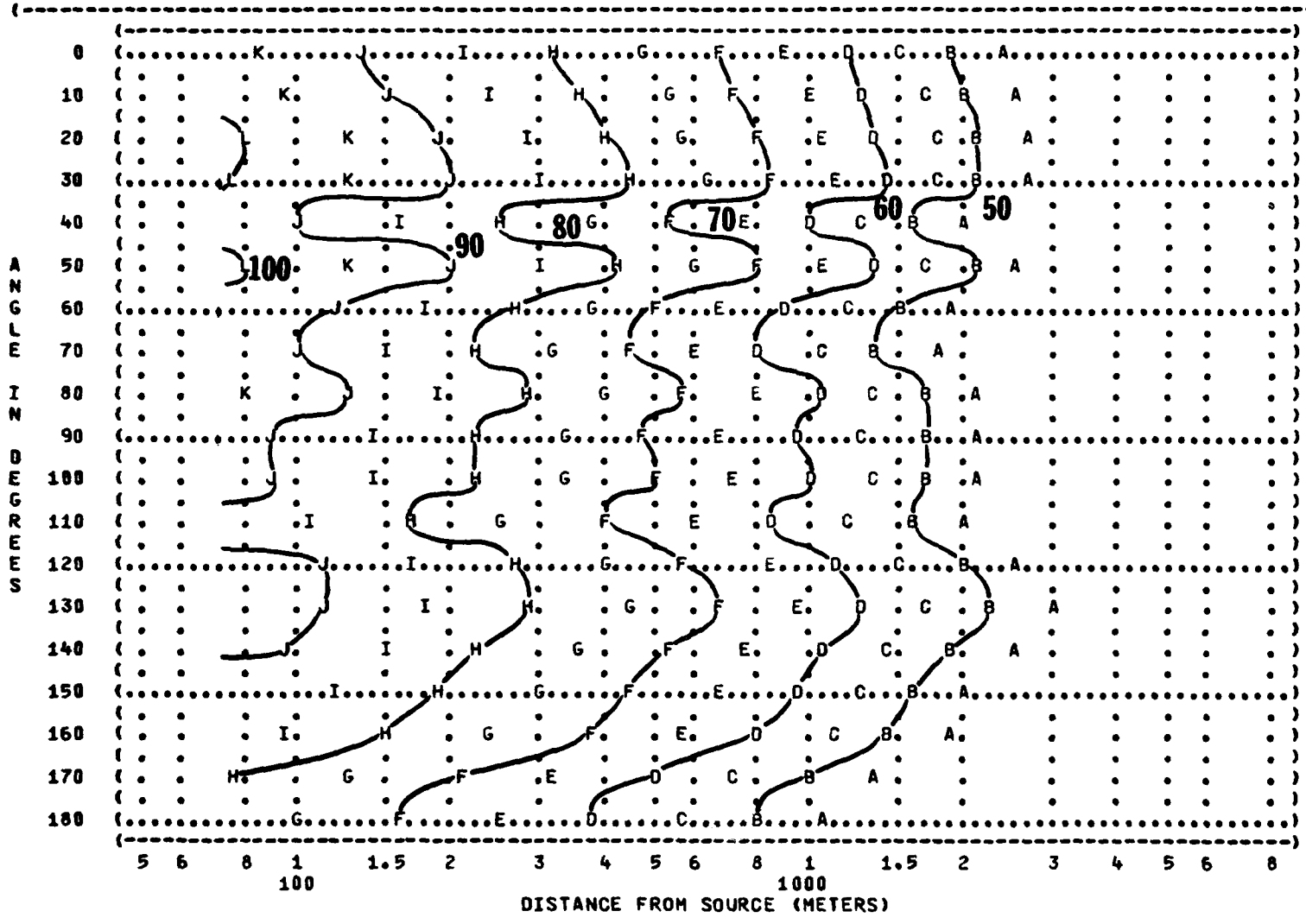
FIGURE: 6 A-WEIGHTED OVERALL SOUND LEVEL (OASLA) EQUAL LEVEL CONTOURS (DBA)

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-001
RUN 01
14 SEP 78
PAGE 15

NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE (MODIFIED) AF32A-52 NOISE SUPPRESSOR FAR-FIELD NOISE

OPERATION:
80% RPM
INBOARD ENGINE WITH SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %



POINT	DBA
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85
J	90
K	95
L	100

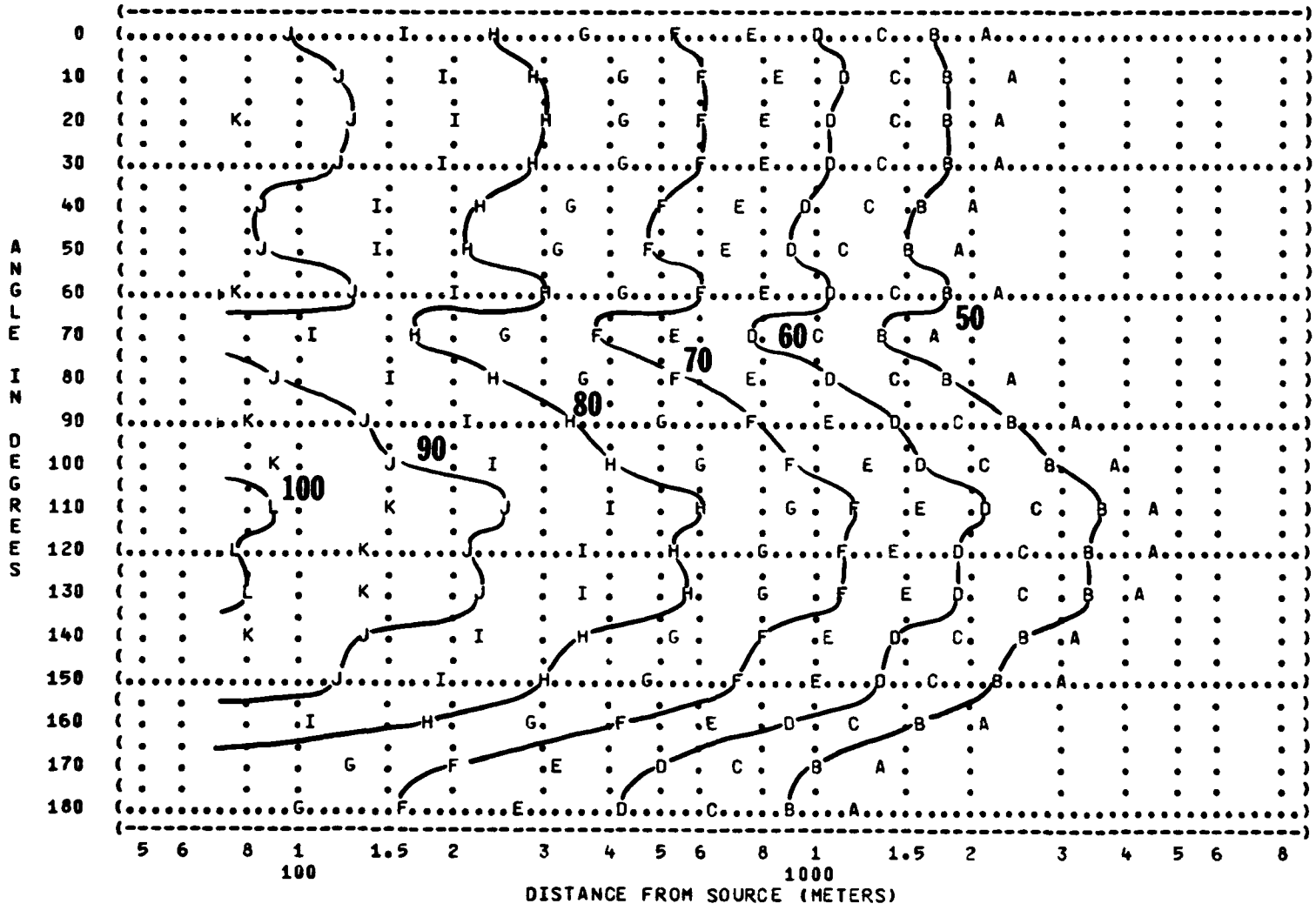
FIGURE 6: A-WEIGHTED OVERALL SOUND LEVEL (OASLA) EQUAL LEVEL CONTOURS (DBA)

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-001
RUN 02
14 SEP 78
PAGE 15

NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE (MODIFIED) AF32A-52 NOISE SUPPRESSOR FAR-FIELD NOISE

OPERATION:
MILITARY POWER (DRY), 96% RPM, INBOARD ENGINE WITH SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %



POINT	DBA
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85
J	90
K	95
L	100

FIGURE: 6 A-WEIGHTED OVERALL SOUND LEVEL (OASLA) EQUAL LEVEL CONTOURS (DBA)

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-001
RUN 03
14 SEP 78
PAGE 15

NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE (MODIFIED) AF32A-52 NOISE SUPPRESSOR FAR-FIELD NOISE

OPERATION:
MILITARY POWER (WET), 96% RPM, INBOARD ENGINE WITH SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	DBA
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85
J	90
K	95
L	100
M	105

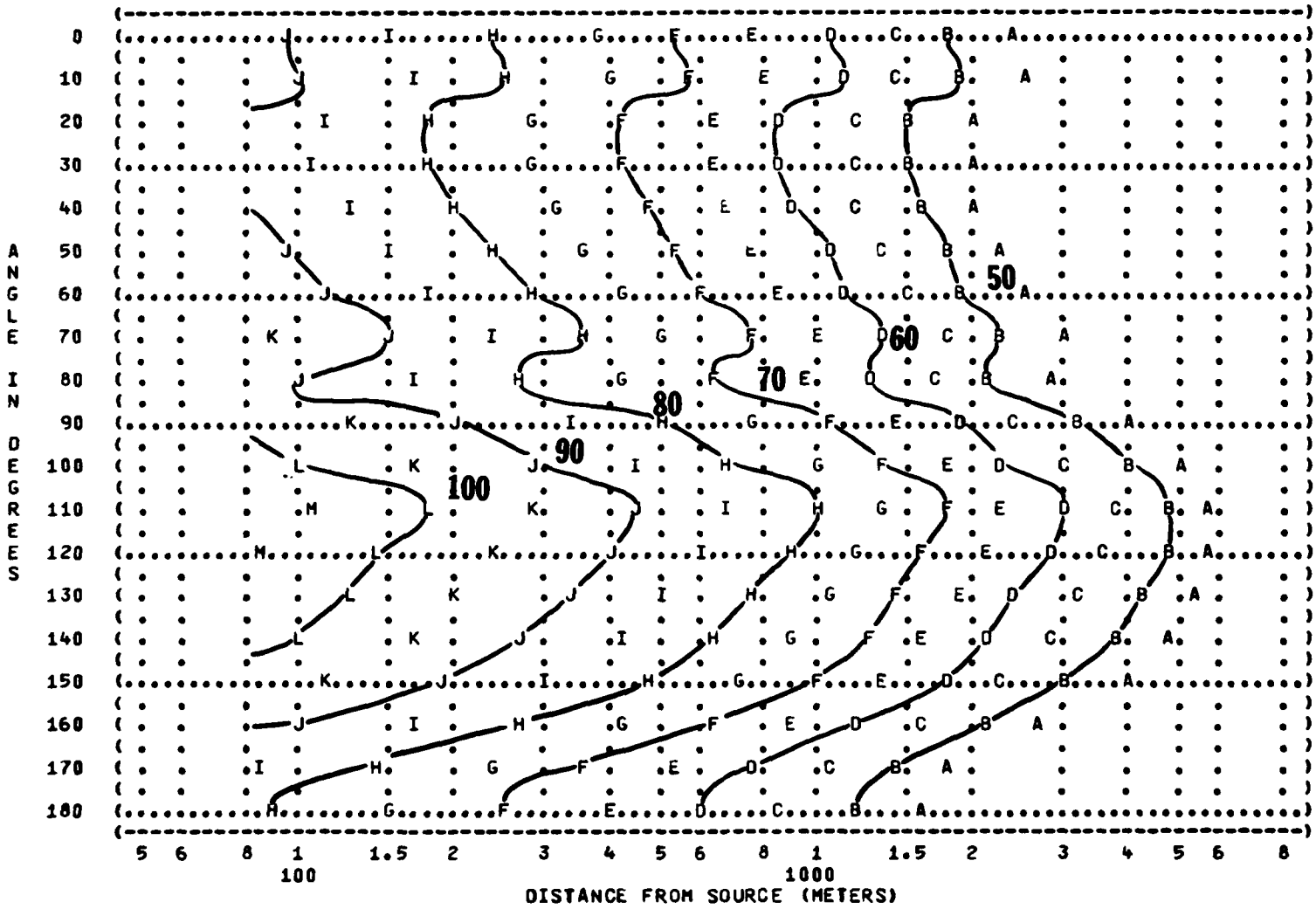


FIGURE 7: PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT) EQUAL LEVEL CONTOURS (PNDB)

NOISE SOURCE/SUBJECT: KC-135A AIRCRAFT IN THE (MODIFIED) AF32A-52 NOISE SUPPRESSOR FAR-FIELD NOISE

OPERATION: 80% RPM INBOARD ENGINE WITH SUPPRESSOR MOUNTED

METEOROLOGY: TEMP = 15 C; BAR PRESS = .760 M HG; REL HUMID = 70 %

IDENTIFICATION: OMEGA 1.4; TEST 77-726-001; RUN 01; 14 SEP 78

POINT	PNDB
A	60
B	65
C	70
D	75
E	80
F	85
G	90
H	95
I	100
J	105
K	110
L	115

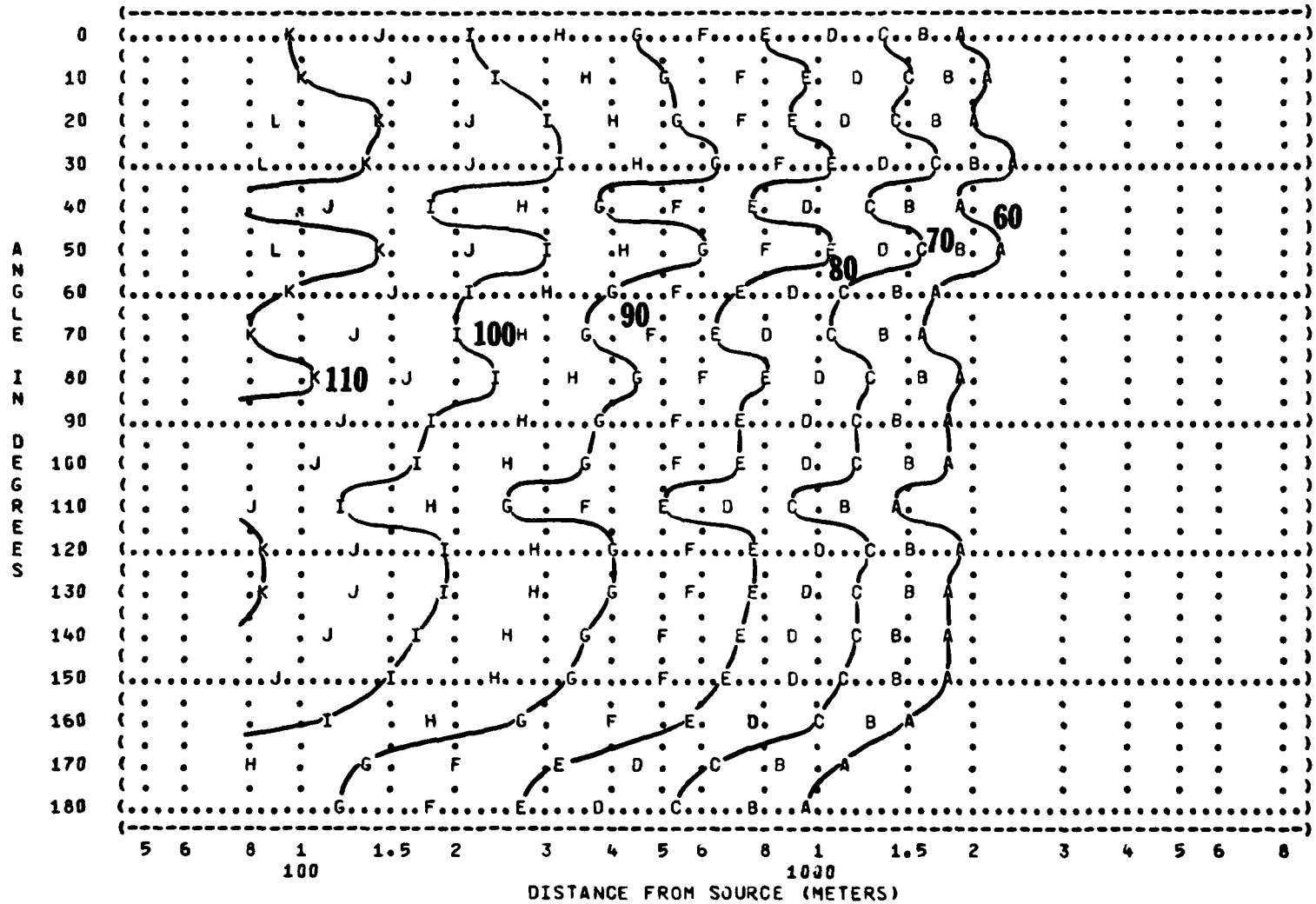


FIGURE 7: PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT) EQUAL LEVEL CONTOURS (PNDB)

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-001
RUN 02
14 SEP 78
PAGE 16

NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE (MODIFIED) AF32A-52 NOISE SUPPRESSOR FAR-FIELD NOISE

OPERATION:
MILITARY POWER (DRY), 96% RPM, INBOARD ENGINE WITH SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M MG
REL HUMID = 70 %

POINT	PNDB
A	60
B	65
C	70
D	75
E	80
F	85
G	90
H	95
I	100
J	105
K	110

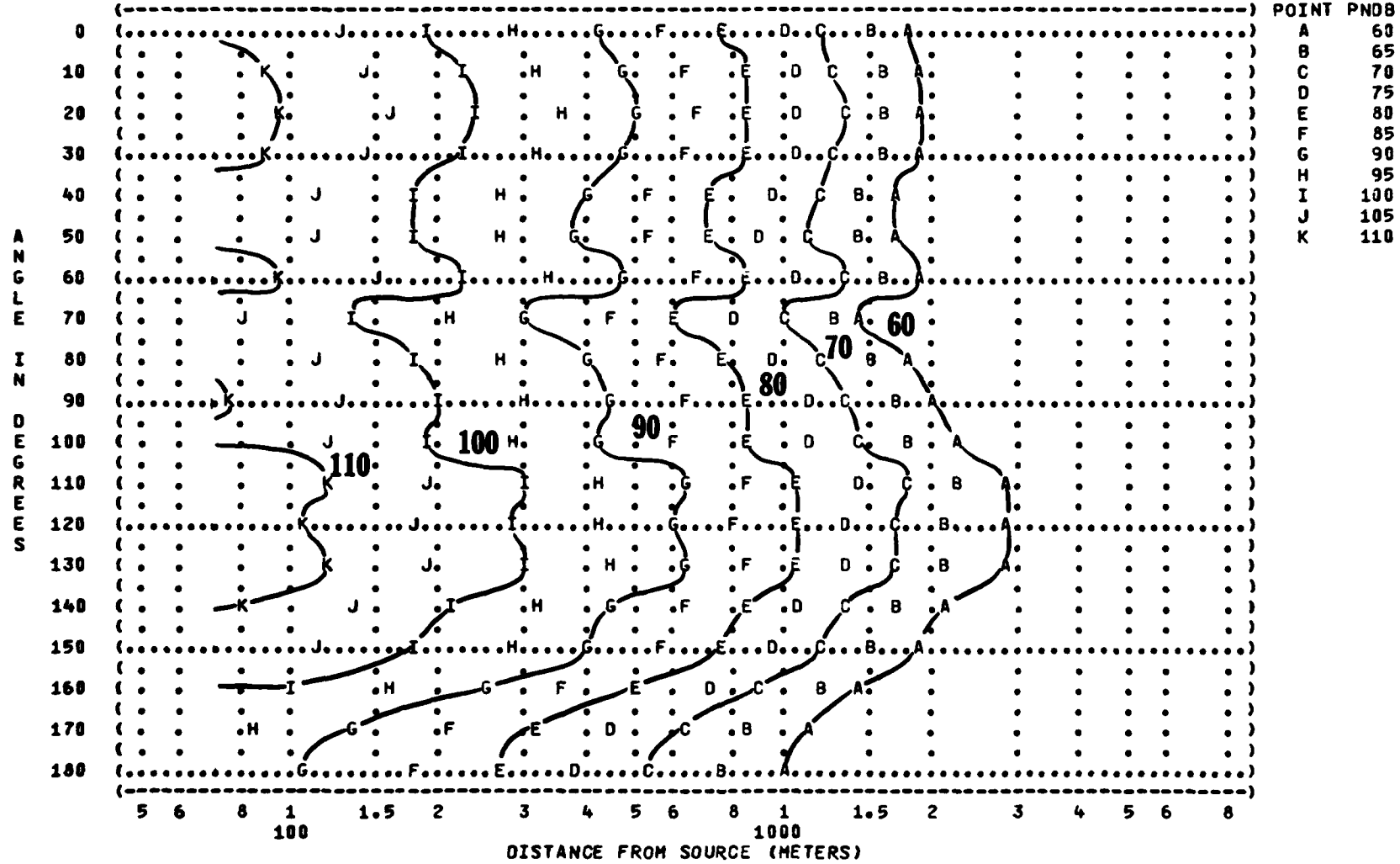


FIGURE: 7 PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT) EQUAL LEVEL CONTOURS (PNDB)

NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE (MODIFIED) AF32A-52 NOISE SUPPRESSOR FAR-FIELD NOISE

OPERATION:
MILITARY POWER (WET), 96% RPM, INBOARD ENGINE WITH SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-001
RUN 03
14 SEP 78
PAGE 16

POINT	PNDB
A	60
B	65
C	70
D	75
E	80
F	85
G	90
H	95
I	100
J	105
K	110
L	115
M	120

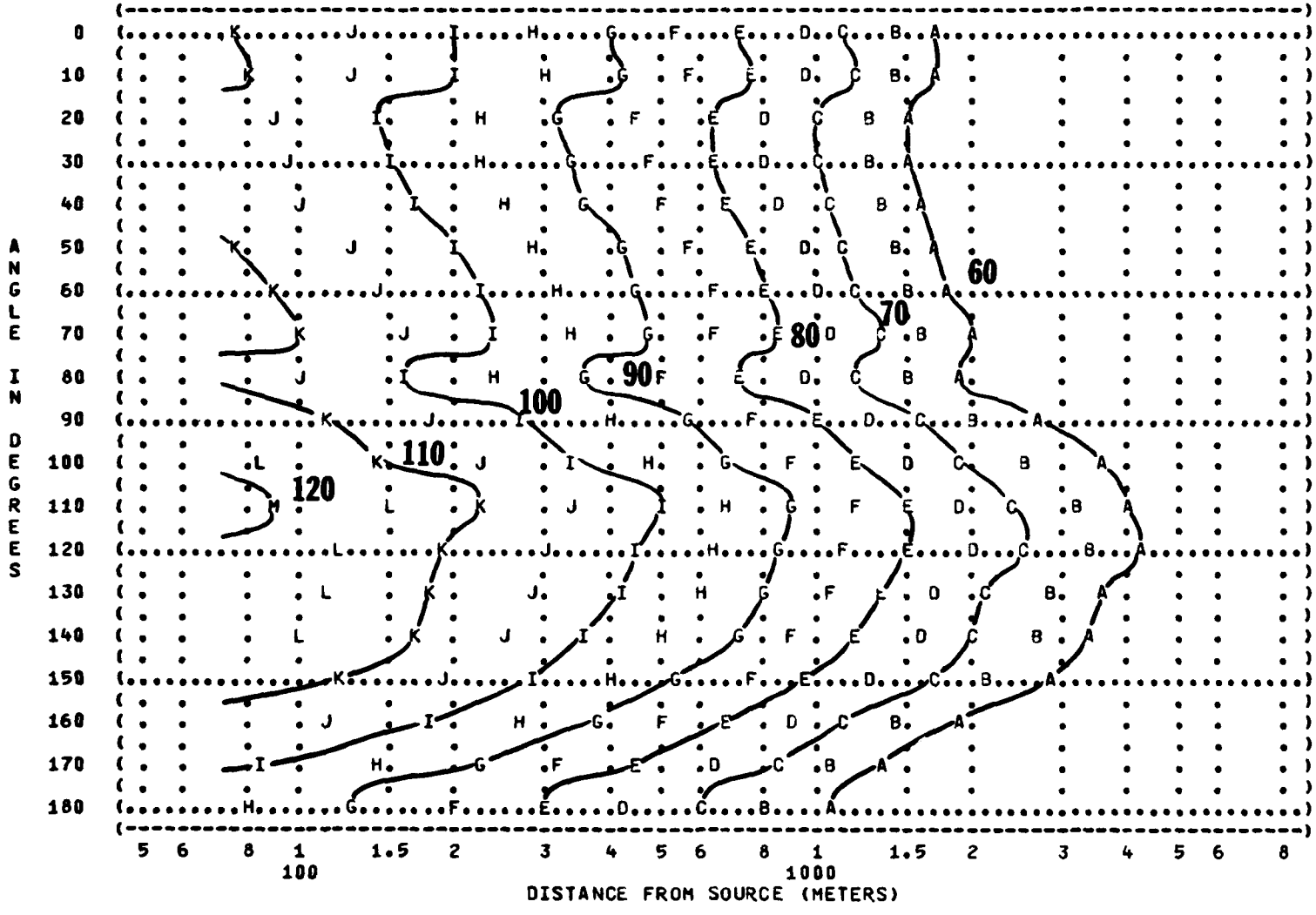


FIGURE 8: PREFERRED SPEECH INTERFERENCE LEVEL (PSIL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-001
RUN 01
14 SEP 78
PAGE 17

NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE (MODIFIED) AF32A-52 NOISE SUPPRESSOR FAR-FIELD NOISE

OPERATION:
80% RPM
INBOARD ENGINE WITH SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85

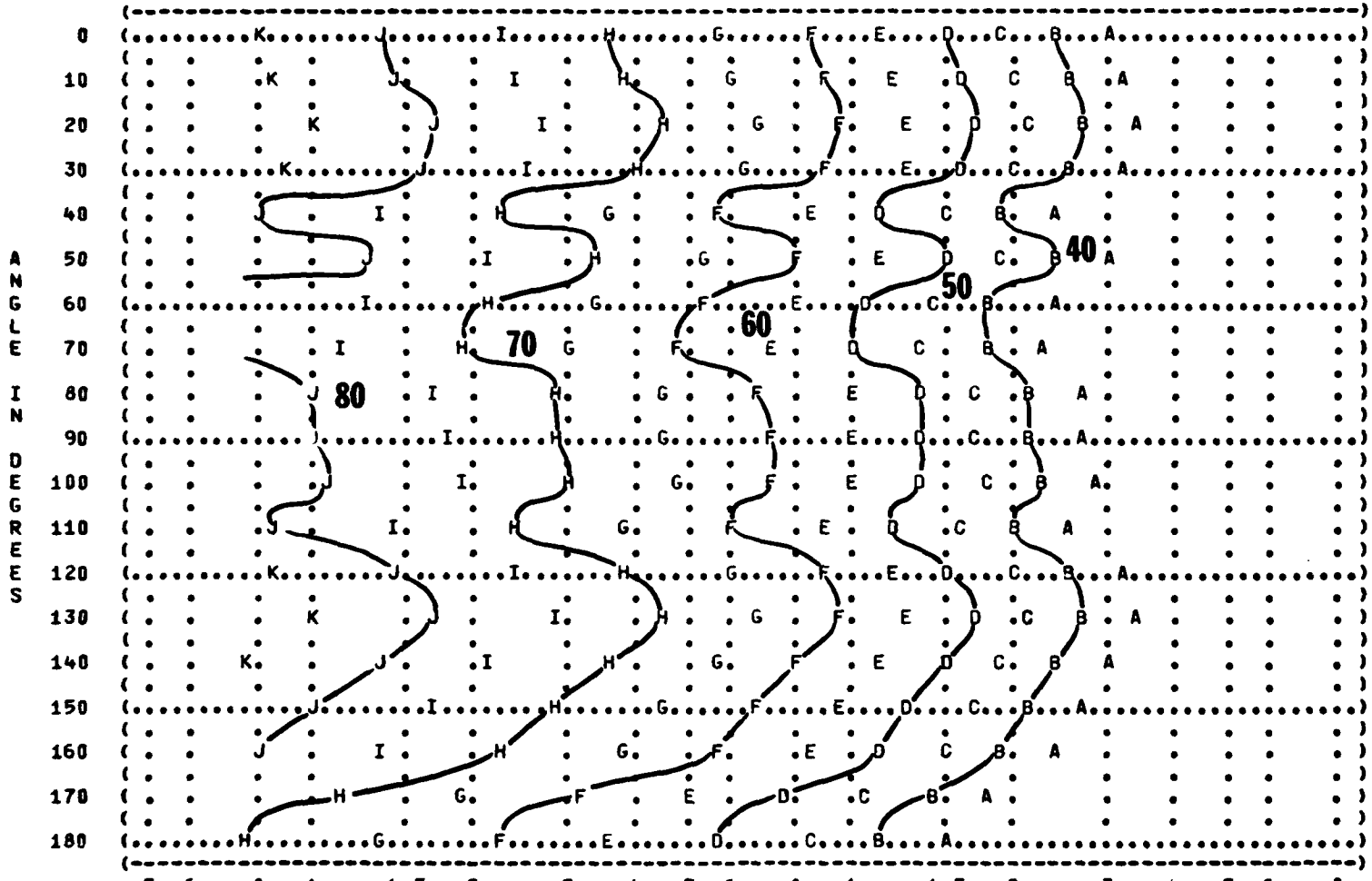


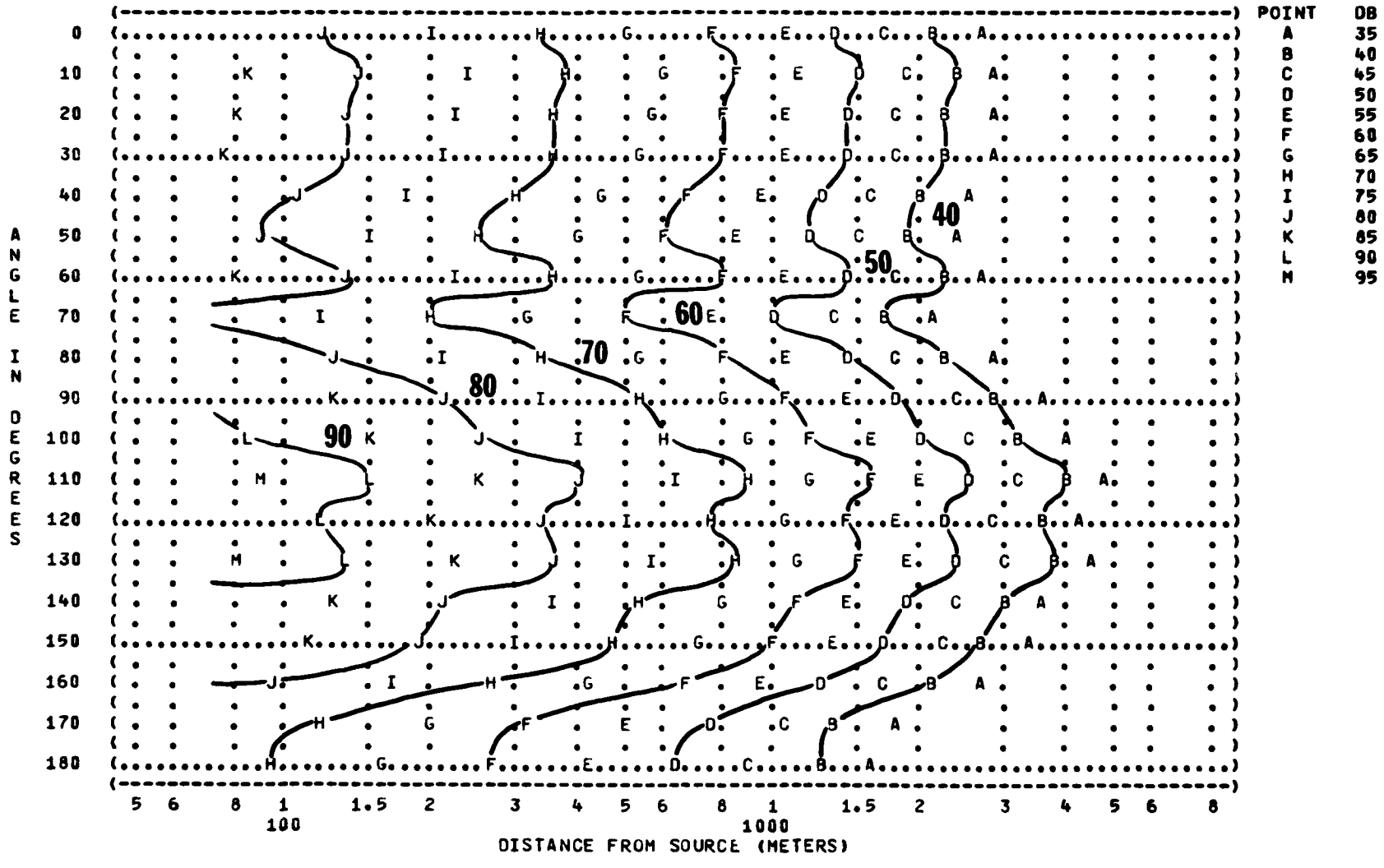
FIGURE 8: PREFERRED SPEECH INTERFERENCE LEVEL (PSIL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-081
RUN 02
14 SEP 78
PAGE 17

NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE (MODIFIED) AF32A-52
NOISE SUPPRESSOR
FAR-FIELD NOISE

OPERATION:
MILITARY POWER (DRY),
96% RPM, INBOARD ENGINE
WITH SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95

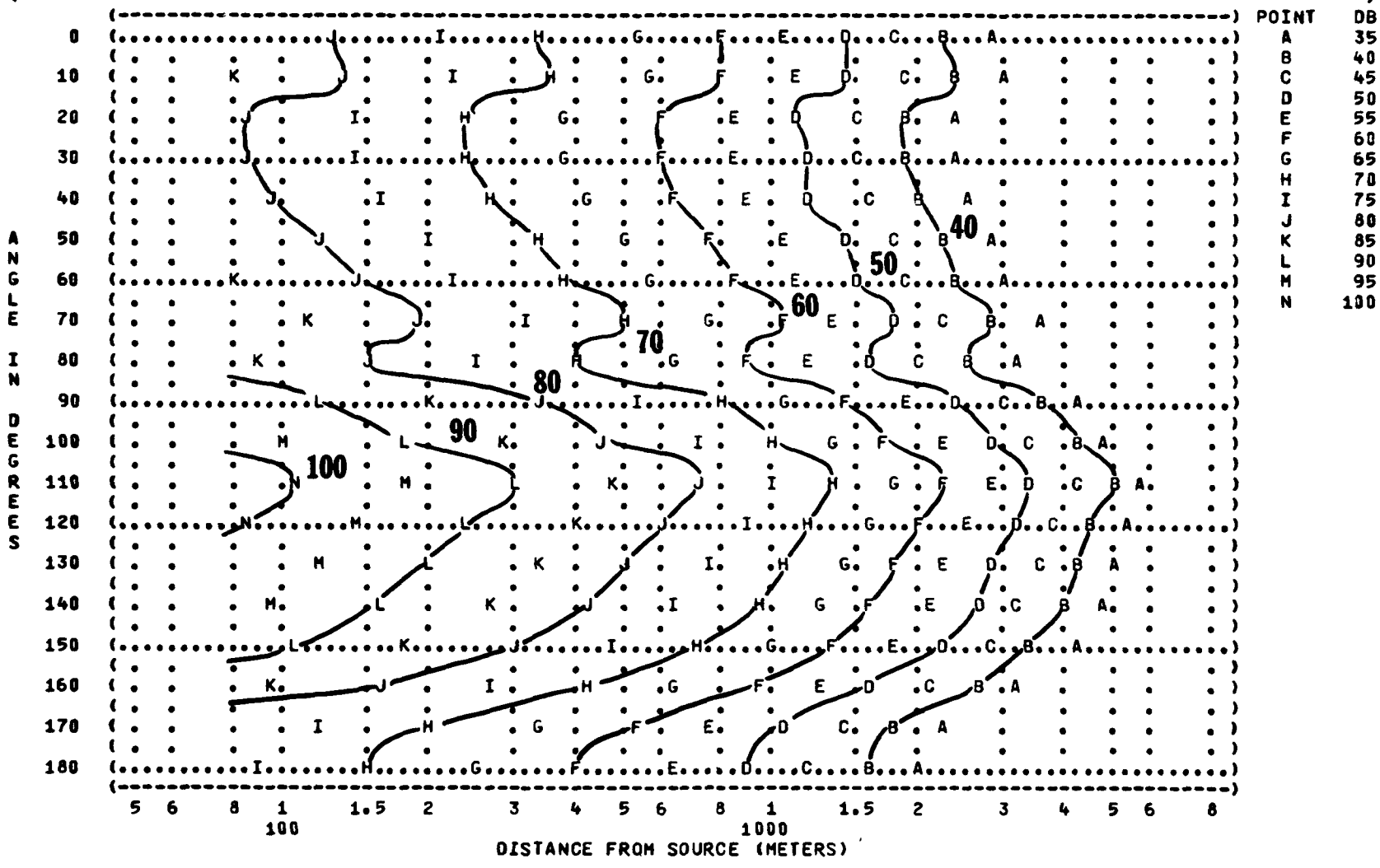
FIGURE 8: PREFERRED SPEECH INTERFERENCE LEVEL (PSIL)
EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-001
RUN 03
14 SEP 78
PAGE 17

NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE
(MODIFIED) AF32A-52
NOISE SUPPRESSOR
FAR-FIELD NOISE

OPERATION:
MILITARY POWER (WET),
96% RPM, INBOARD ENGINE
WITH SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100

FIGURE 9: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
NO PROTECTION

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-001
RUN 01
14 SEP 78
PAGE 7

NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE
(MODIFIED) AF32A-52
NOISE SUPPRESSOR
FAR-FIELD NOISE

OPERATION:
80% RPM
INBOARD ENGINE WITH
SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	MIN
A	960
B	480
C	240
D	120
E	60
F	30

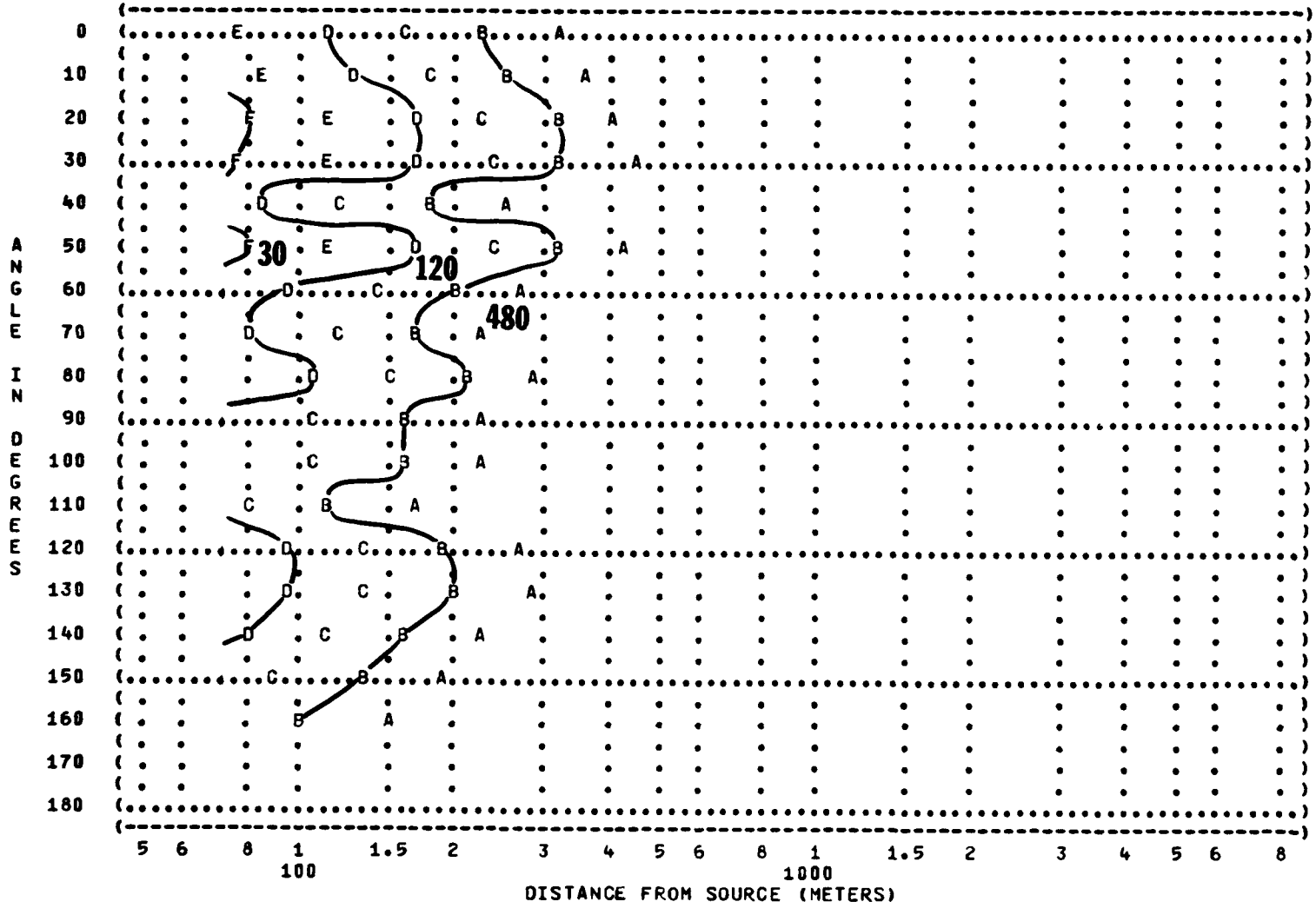


FIGURE 9 MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-001
RUN 01
14 SEP 78
PAGE 8

NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE
(MODIFIED) AF32A-52
NOISE SUPPRESSOR
FAR-FIELD NOISE

OPERATION:
80% RPM
INBOARD ENGINE WITH
SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

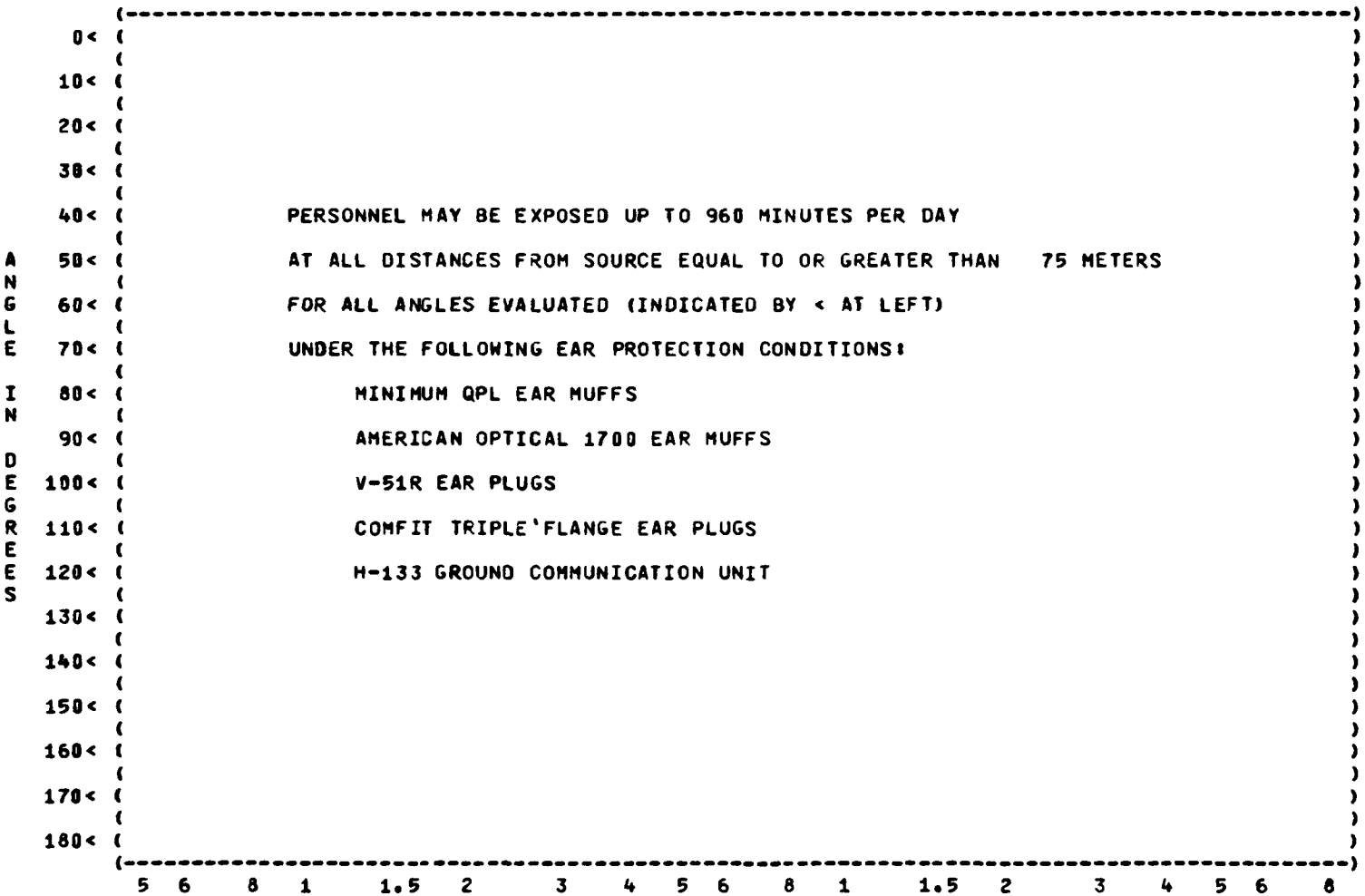


FIGURE 9: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
NO PROTECTION

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-001
RUN 02
14 SEP 78
PAGE 7

NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE
(MODIFIED) AF32A-52
NOISE SUPPRESSOR
FAR-FIELD NOISE

OPERATION:
MILITARY POWER (DRY),
96% RPM, INBOARD ENGINE
WITH SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

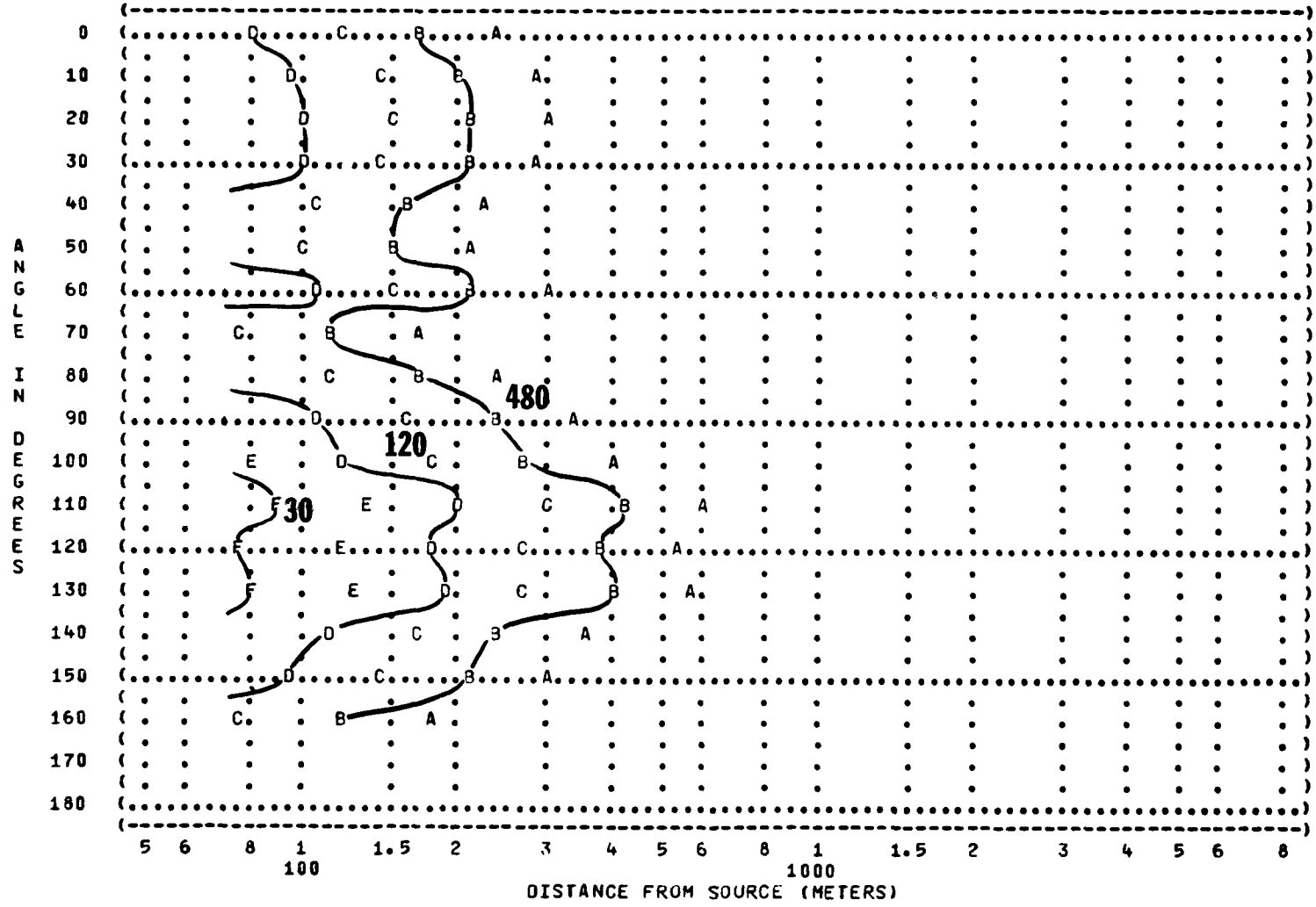


FIGURE 9 MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
MINIMUM QPL EAR MUFFS

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-001
RUN 02
14 SEP 78
PAGE 8

NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE
(MODIFIED) AF32A-52
NOISE SUPPRESSOR
FAR-FIELD NOISE

OPERATION:
MILITARY POWER (DRY),
96% RPM, INBOARD ENGINE
WITH SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	MIN
A	960

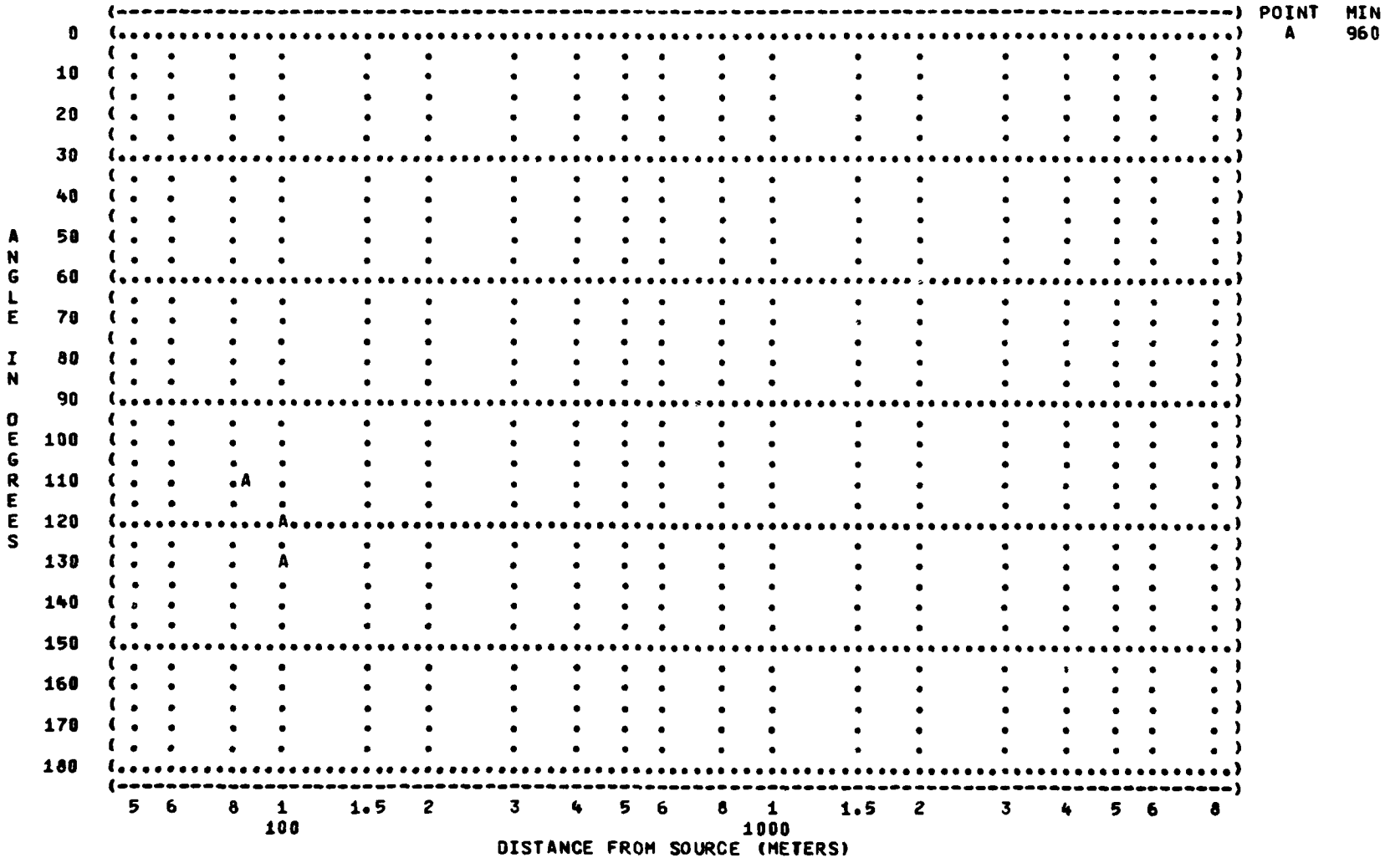


FIGURE 9: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-001
RUN 02
14 SEP 78
PAGE 9

NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE (MODIFIED) AF32A-52 NOISE SUPPRESSOR FAR-FIELD NOISE

OPERATION:
MILITARY POWER (DRY), 96% RPM, INBOARD ENGINE WITH SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

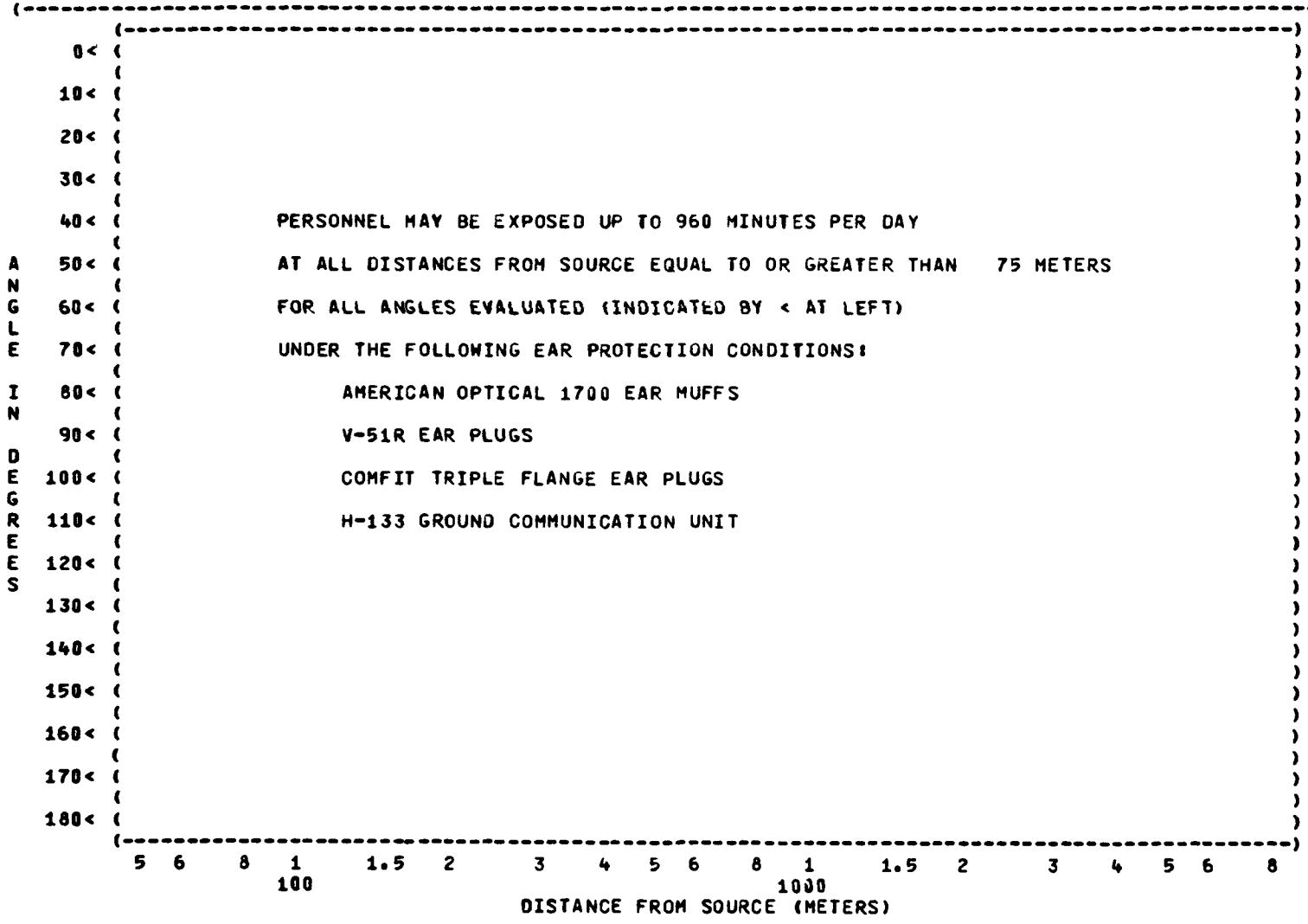


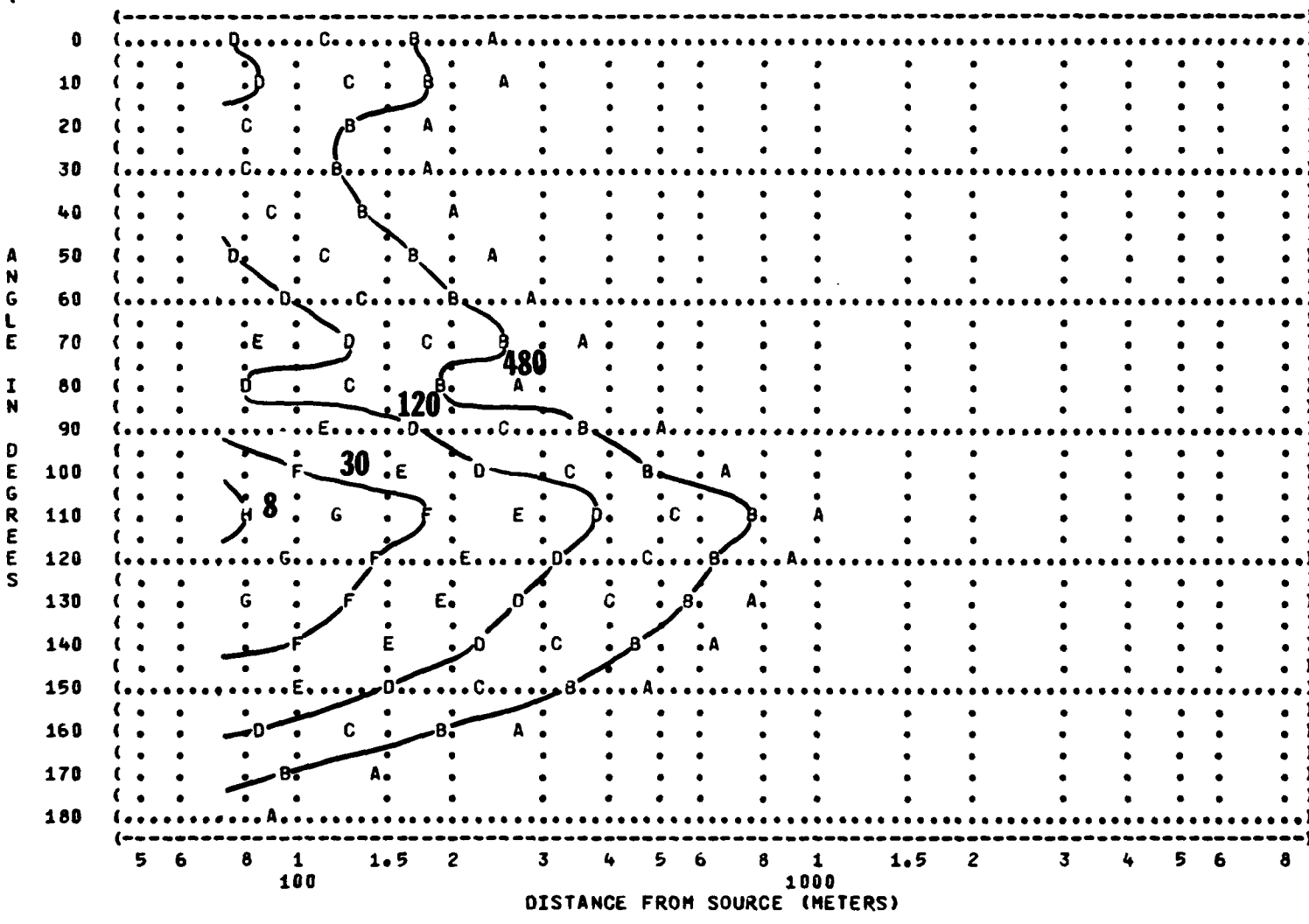
FIGURE 9: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
NO PROTECTION

NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE (MODIFIED) AF32A-52 NOISE SUPPRESSOR FAR-FIELD NOISE

OPERATION:
MILITARY POWER (WET), 96% RPM, INBOARD ENGINE WITH SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-001
RUN 03
14 SEP 78
PAGE 7



POINT	MIN
A	960
B	480
C	240
D	120
E	60
F	30
G	15
H	8

FIGURE 9: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
MINIMUM QPL EAR MUFFS

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-001
RUN 03
14 SEP 78
PAGE 8

NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE
(MODIFIED) AF32A-52
NOISE SUPPRESSOR
FAR-FIELD NOISE

OPERATION:
MILITARY POWER (WET),
96% RPM, INBOARD ENGINE
WITH SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	MIN
A	960
B	480

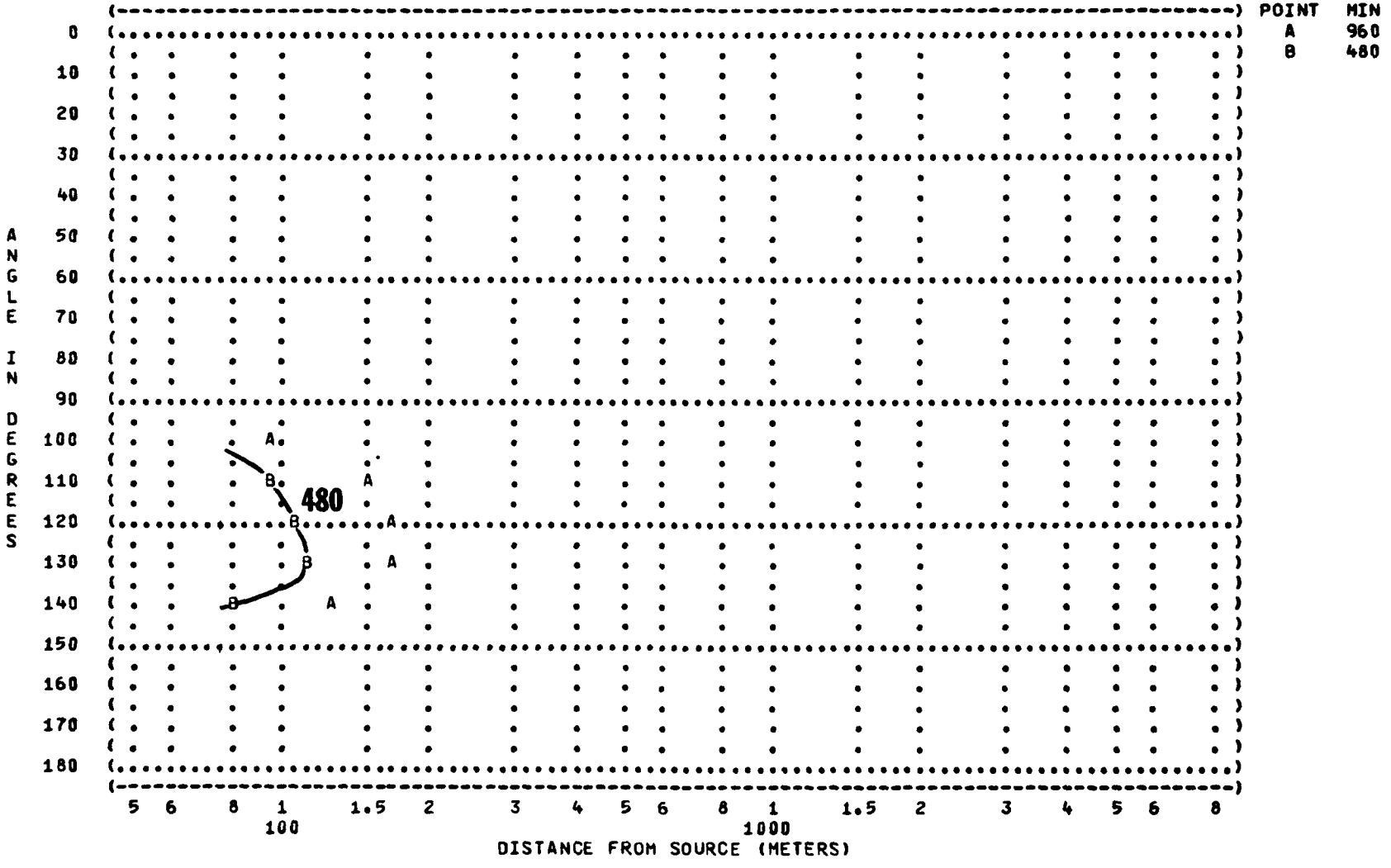


FIGURE 9: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
AMERICAN OPTICAL 1700 EAR MUFFS

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-001
RUN 03
14 SEP 78
PAGE 9

NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE (MODIFIED) AF32A-52 NOISE SUPPRESSOR FAR-FIELD NOISE

OPERATION:
MILITARY POWER (WET), 96% RPM, INBOARD ENGINE WITH SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

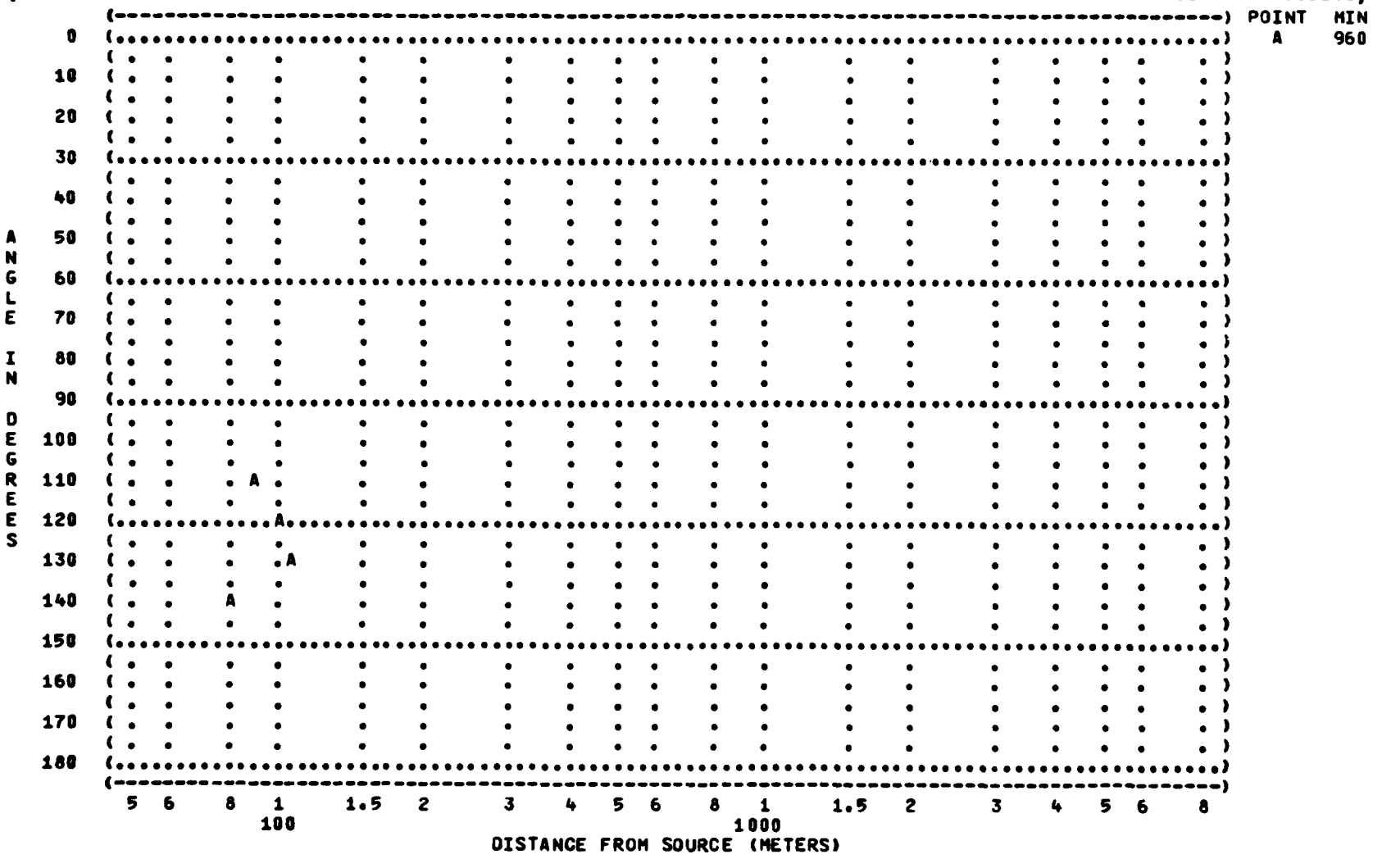


FIGURE 9: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
V-51R EAR PLUGS

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-001
RUN 03
14 SEP 78
PAGE 10

NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE
(MODIFIED) AF32A-52
NOISE SUPPRESSOR
FAR-FIELD NOISE

OPERATION:
MILITARY POWER (WET),
96% RPM, INBOARD ENGINE
WITH SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	MIN
A	960

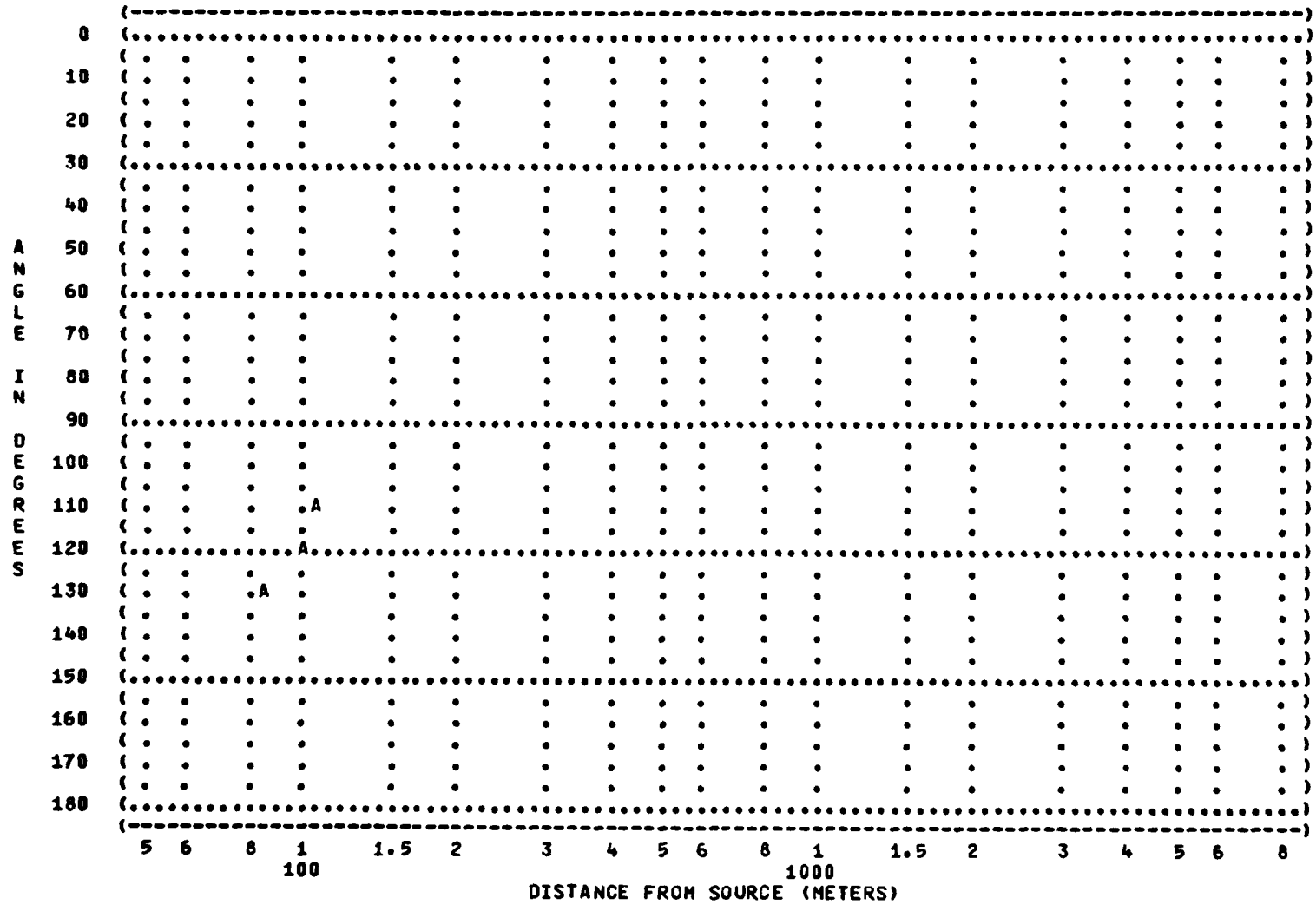


FIGURE 9: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
COMFIT TRIPLE FLANGE EAR PLUGS

NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE
(MODIFIED) AF32A-52
NOISE SUPPRESSOR
FAR-FIELD NOISE

OPERATION:
MILITARY POWER (WET),
96% RPM, INBOARD ENGINE
WITH SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-001
RUN 03
14 SEP 78
PAGE 11

POINT	MIN
A	960
B	480

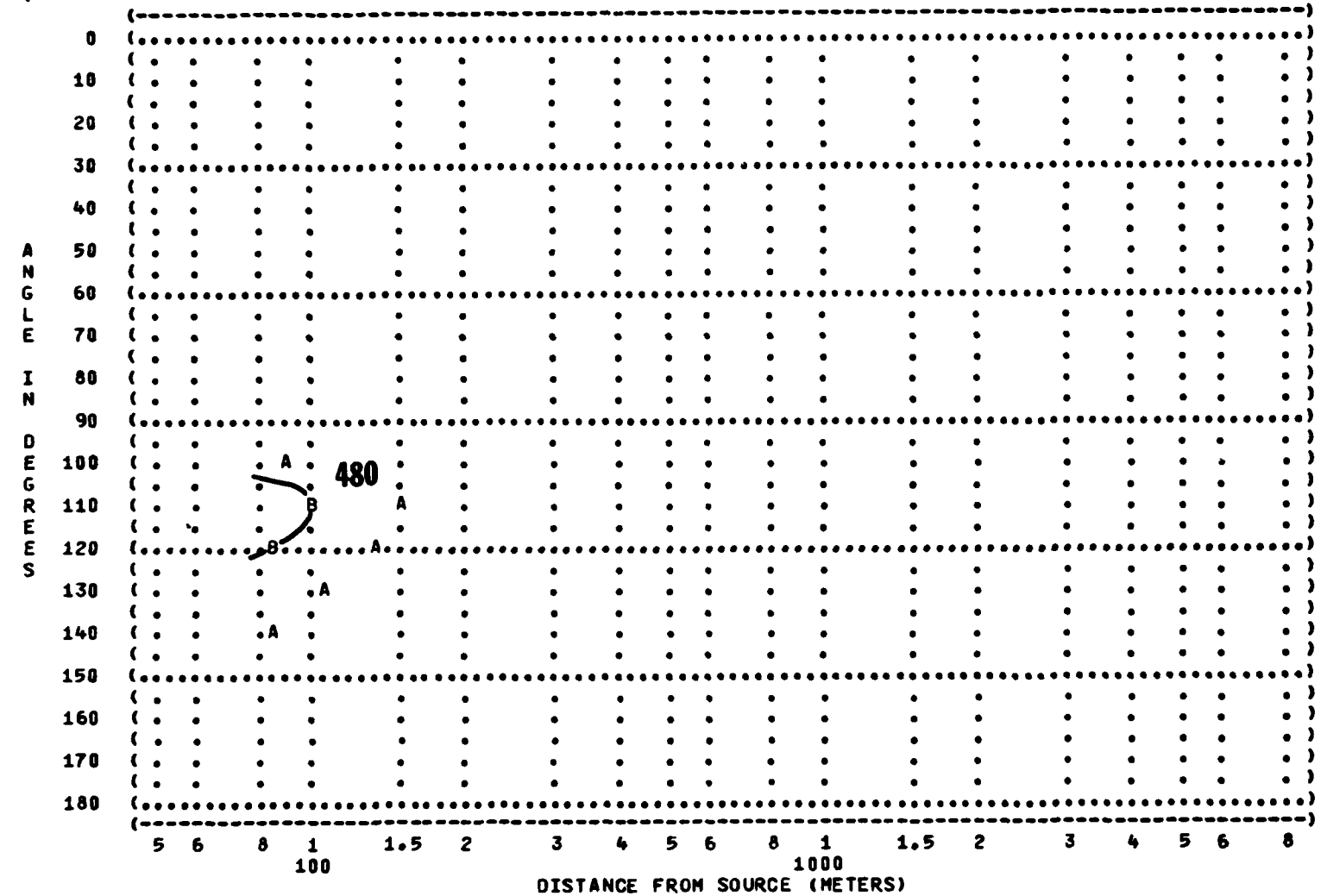


FIGURE 9: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
H-133 GROUND COMMUNICATION UNIT

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-001
RUN 03

14 SEP 78

PAGE 12

NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE
(MODIFIED) AF32A-52
NOISE SUPPRESSOR
FAR-FIELD NOISE

OPERATION:
MILITARY POWER (WET),
96% RPM, INBOARD ENGINE
WITH SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT A MIN 960

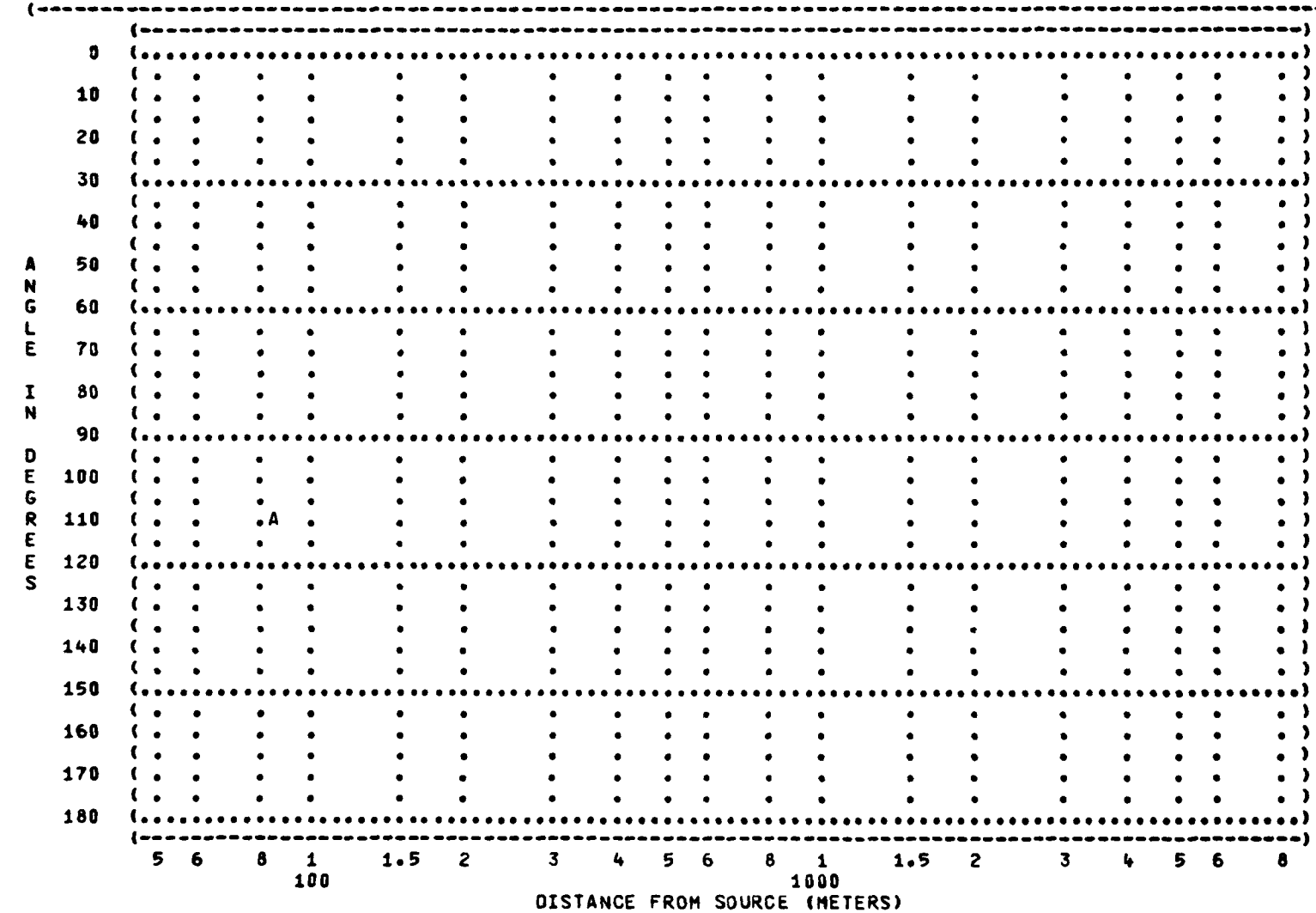


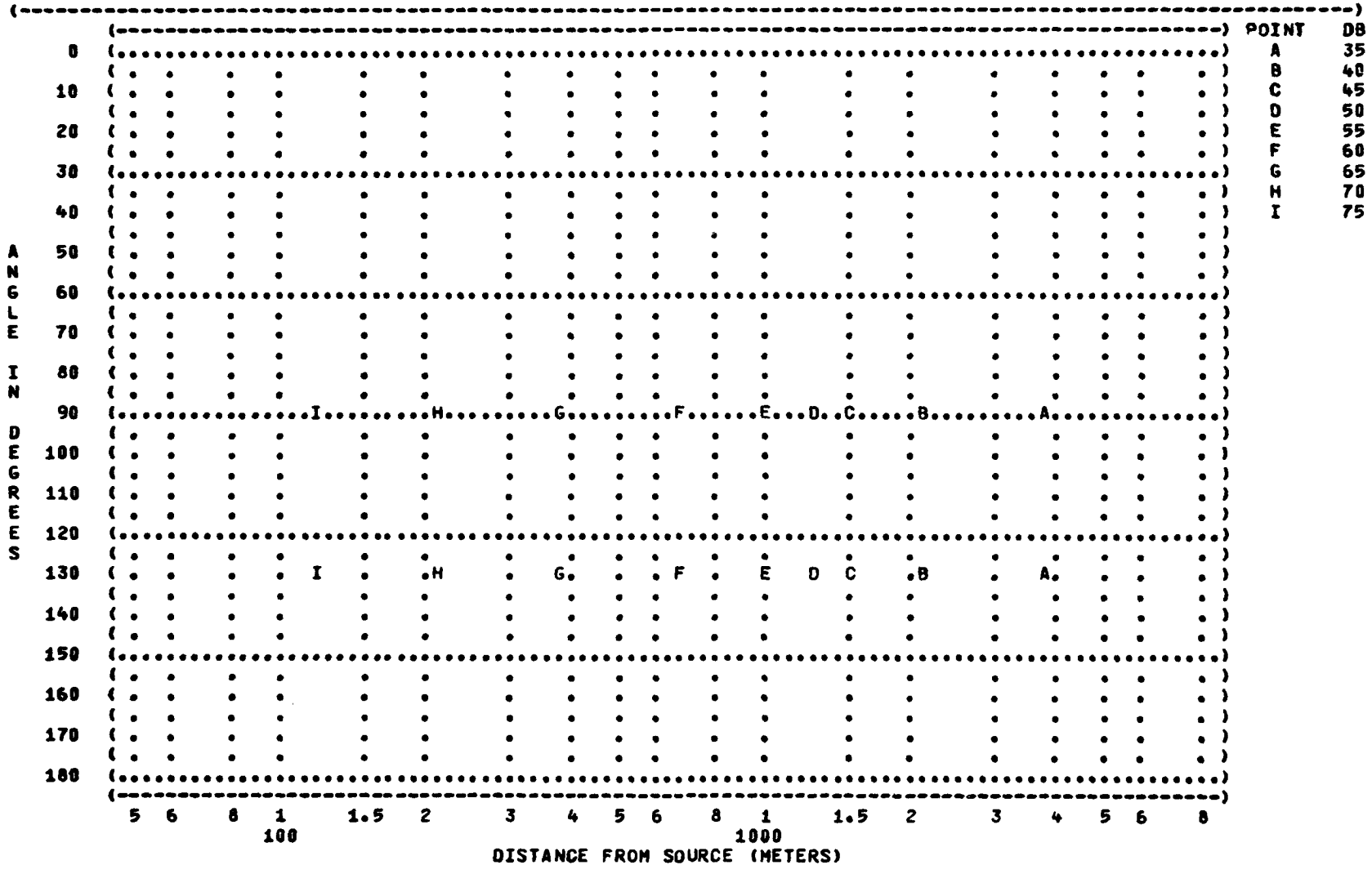
FIGURE 10: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 31.5 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT: KC-135A AIRCRAFT IN THE (MODIFIED) AF32A-52 NOISE SUPPRESSOR FAR-FIELD NOISE

OPERATION: 80% RPM INBOARD ENGINE WITH SUPPRESSOR MOUNTED

METEOROLOGY: TEMP = 15 C; BAR PRESS = .760 M HG; REL HUMID = 70 %

IDENTIFICATION: OMEGA 1.4; TEST 77-726-001; RUN 01; 14 SEP 76; PAGE 18



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75

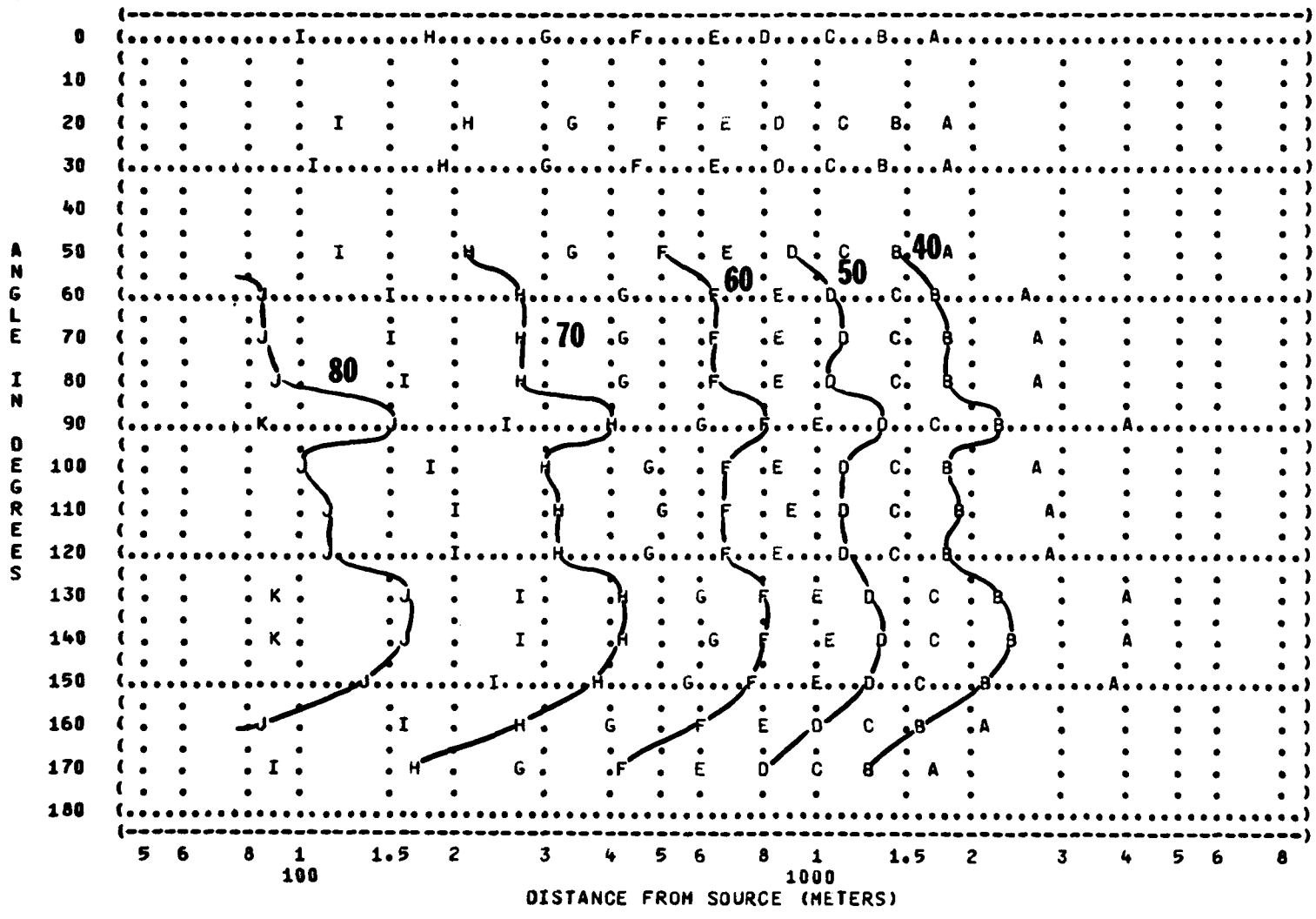
FIGURE 10: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 63 HZ OCTAVE BAND

IDENTIFICATION: OMEGA 1.4 TEST 77-726-001 RUN 01 14 SEP 78 PAGE 19

NOISE SOURCE/SUBJECT: KC-135A AIRCRAFT IN THE (MODIFIED) AF32A-52 NOISE SUPPRESSOR FAR-FIELD NOISE

OPERATION: 90% RPM INBOARD ENGINE WITH SUPPRESSOR MOUNTED

METEOROLOGY: TEMP = 15 C BAR PRESS = .760 M HG REL HUMID = 70 %



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85

FIGURE: 10

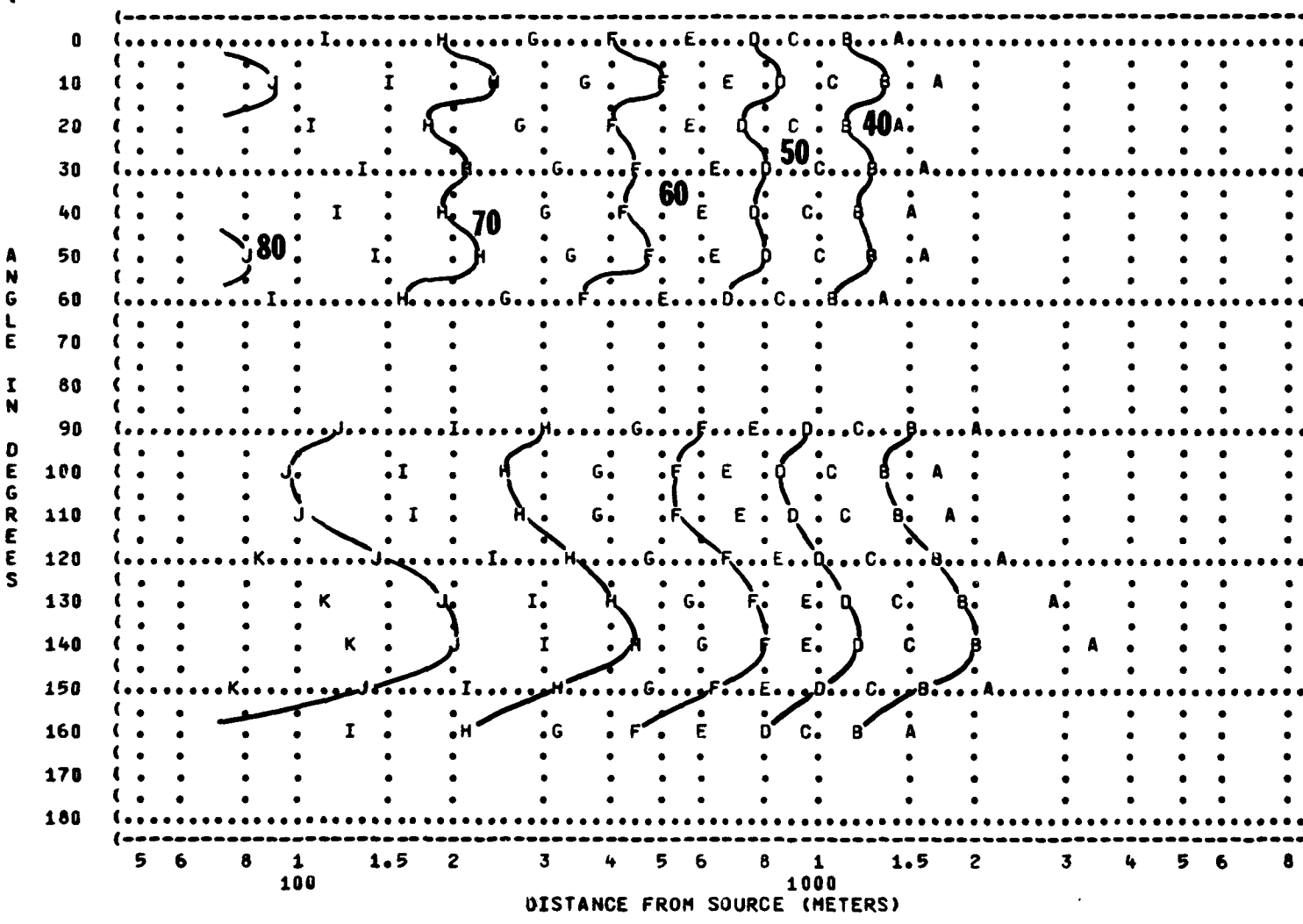
SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
125 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE
(MODIFIED) AF32A-52
NOISE SUPPRESSOR
FAR-FIELD NOISE

OPERATION:
80% RPM
INBOARD ENGINE WITH
SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-001
RUN 01
14 SEP 78
PAGE 20



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85

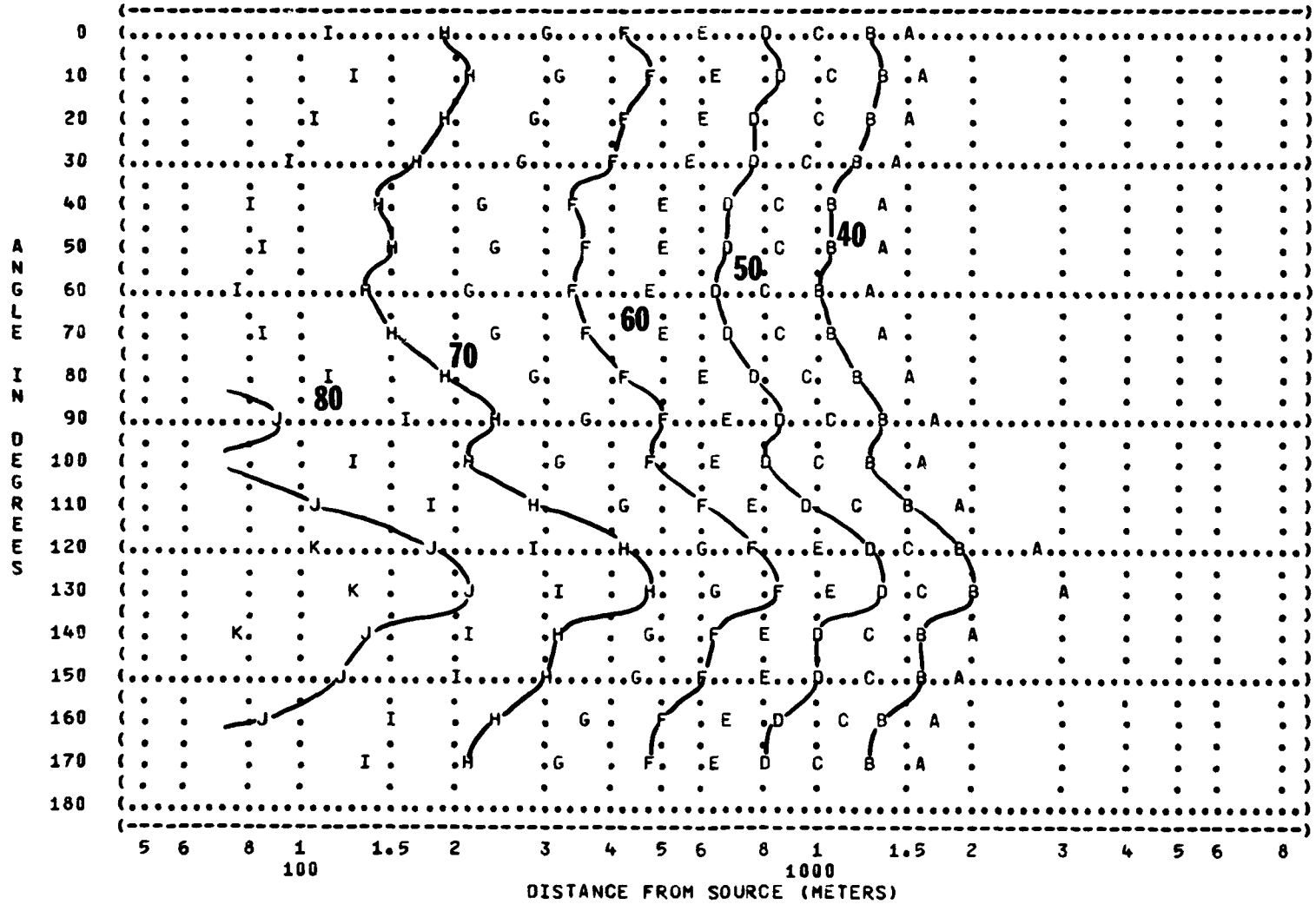
FIGURE 10: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 250 HZ OCTAVE BAND

IDENTIFICATION: OMEGA 1.4 TEST 77-726-001 RUN 01 14 SEP 78 PAGE 21

NOISE SOURCE/SUBJECT: KC-135A AIRCRAFT IN THE (MODIFIED) AF32A-52 NOISE SUPPRESSOR FAR-FIELD NOISE

OPERATION: 80% RPM INBOARD ENGINE WITH SUPPRESSOR MOUNTED

METEOROLOGY: TEMP = 15 C, BAR PRESS = .760 M HG, REL HUMID = 70 %



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85

FIGURE: 10

SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
500 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE
(MODIFIED) AF32A-52
NOISE SUPPRESSOR
FAR-FIELD NOISE

OPERATION:
80% RPM
INBOARD ENGINE WITH
SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-001
RUN 01

14 SEP 78

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90

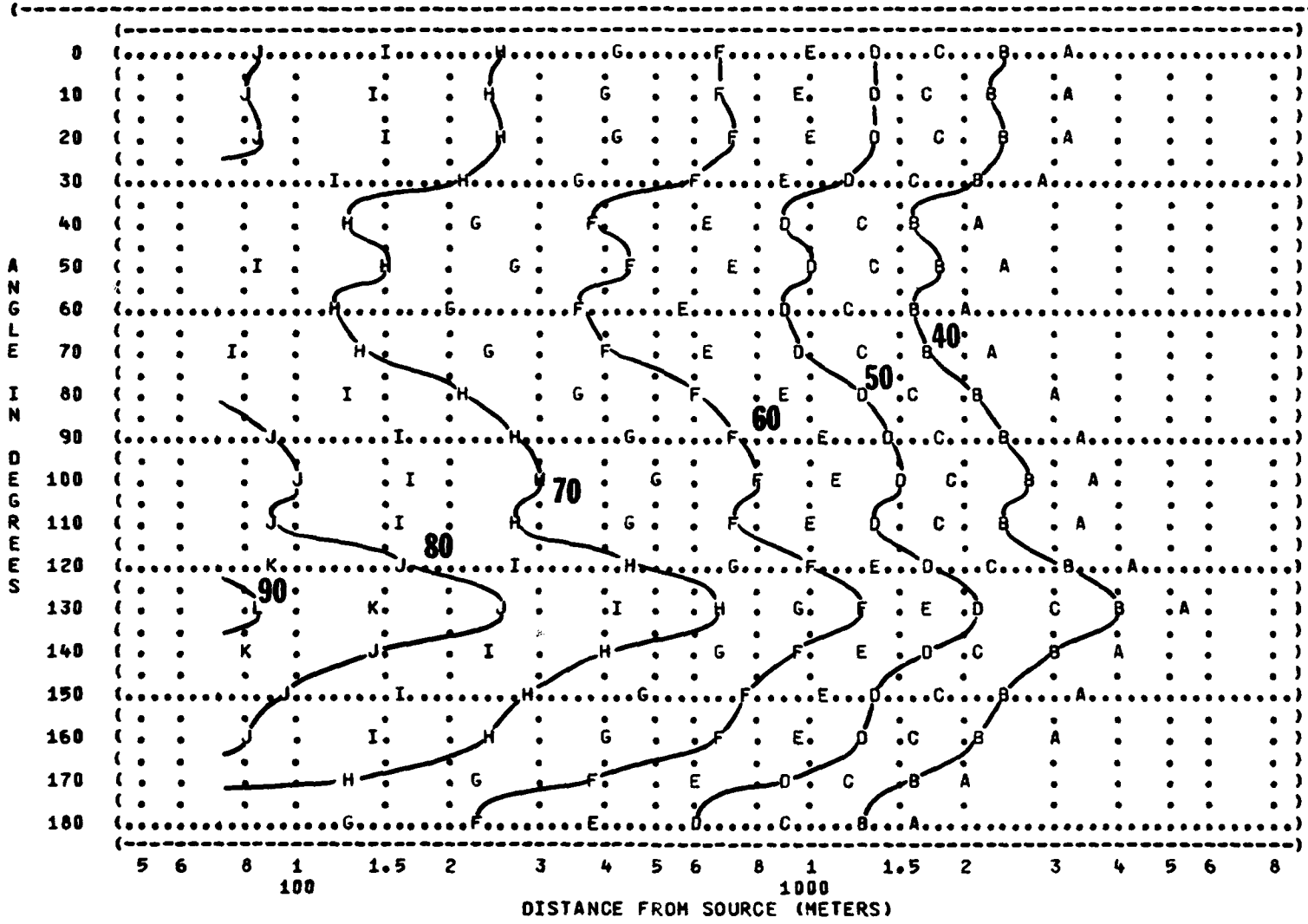


FIGURE 10: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 1000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT: KC-135A AIRCRAFT IN THE (MODIFIED) AF32A-52 NOISE SUPPRESSOR FAR-FIELD NOISE

OPERATION: 80% RPM INBOARD ENGINE WITH SUPPRESSOR MOUNTED

METEOROLOGY: TEMP = 15 C; BAR PRESS = .760 M HG; REL HUMID = 70 %

IDENTIFICATION: OMEGA 1.4; TEST 77-726-001; RUN 01; 14 SEP 78; PAGE 23

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85

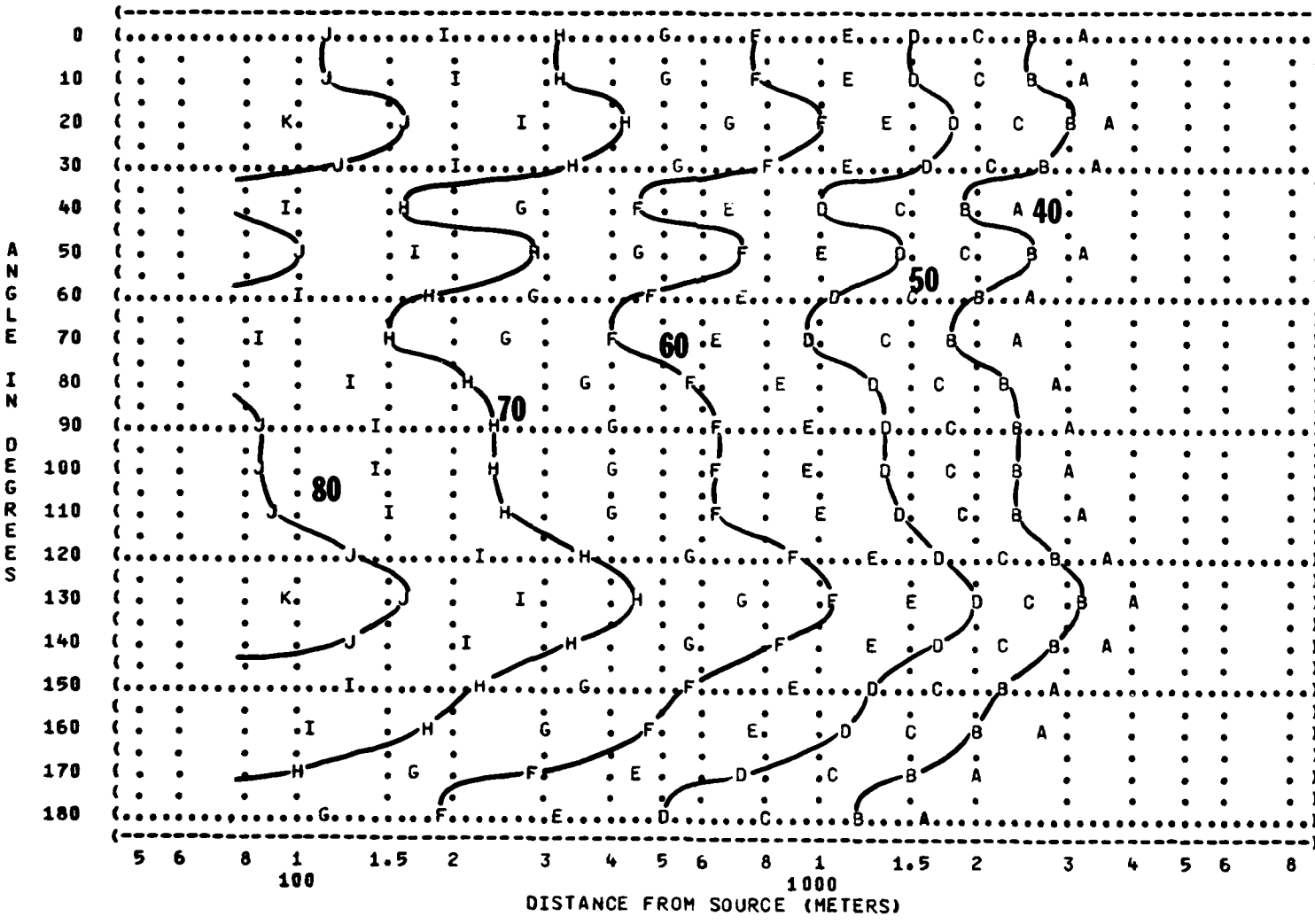


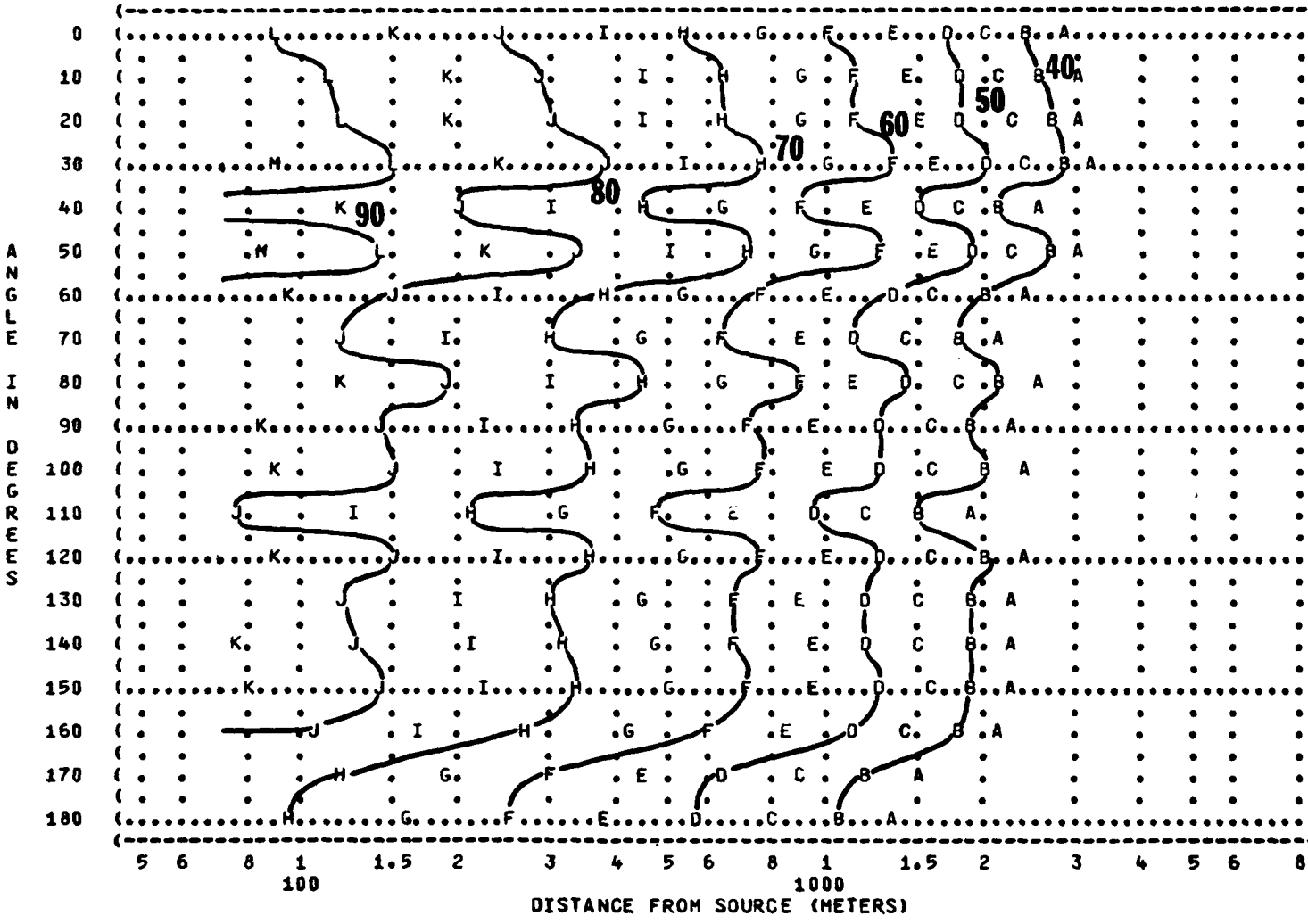
FIGURE 10: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 2000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT: KC-135A AIRCRAFT IN THE (MODIFIED) AF32A-52 NOISE SUPPRESSOR FAR-FIELD NOISE

OPERATION: 80% RPM INBOARD ENGINE WITH SUPPRESSOR MOUNTED

METEOROLOGY: TEMP = 15 C; BAR PRESS = .760 M HG; REL HUMID = 70 %

IDENTIFICATION: OMEGA 1.4; TEST 77-726-001; RUN 01; 14 SEP 78; PAGE 24



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95

FIGURE: 10

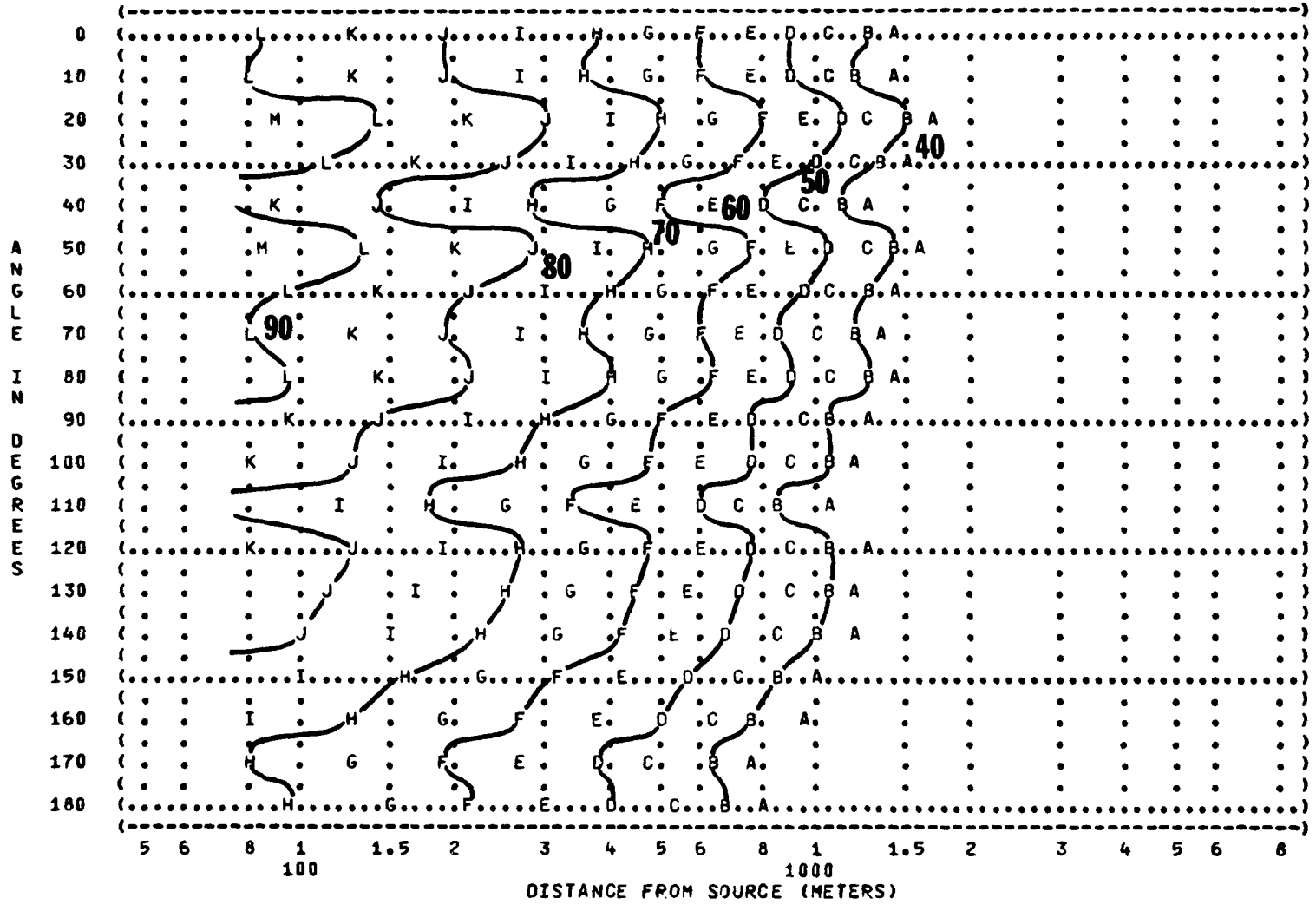
SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
4000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE
(MODIFIED) AF32A-52
NOISE SUPPRESSOR
FAR-FIELD NOISE

OPERATION:
80% RPM
INBOARD ENGINE WITH
SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-001
RUN 01
14 SEP 78
PAGE 25



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95

FIGURE: 10

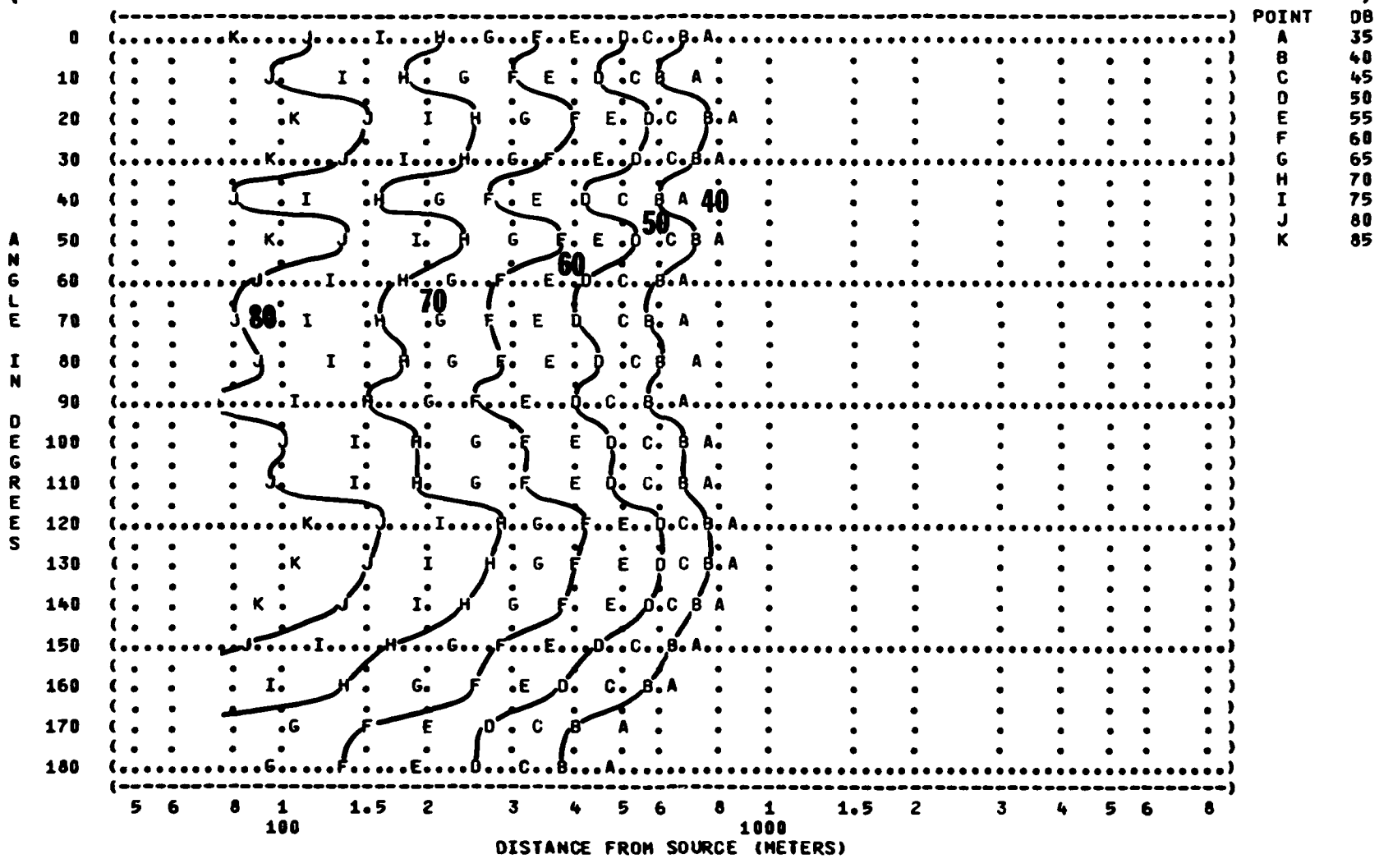
SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
8000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE
(MODIFIED) AF32A-52
NOISE SUPPRESSOR
FAR-FIELD NOISE

OPERATION:
80% RPM
INBOARD ENGINE WITH
SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-001
RUN 01
14 SEP 78
PAGE 26



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85

FIGURE 10: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 31.5 HZ OCTAVE BAND

IDENTIFICATION: OMEGA 1.4 TEST 77-726-001 RUN 02 14 SEP 78 PAGE 18

NOISE SOURCE/SUBJECT: KC-135A AIRCRAFT IN THE (MODIFIED) AF32A-52 NOISE SUPPRESSOR FAR-FIELD NOISE

OPERATION: MILITARY POWER (DRY), 96% RPM, INBOARD ENGINE WITH SUPPRESSOR MOUNTED

METEOROLOGY: TEMP = 15 C, BAR PRESS = .760 M HG, REL HUMID = 70 %

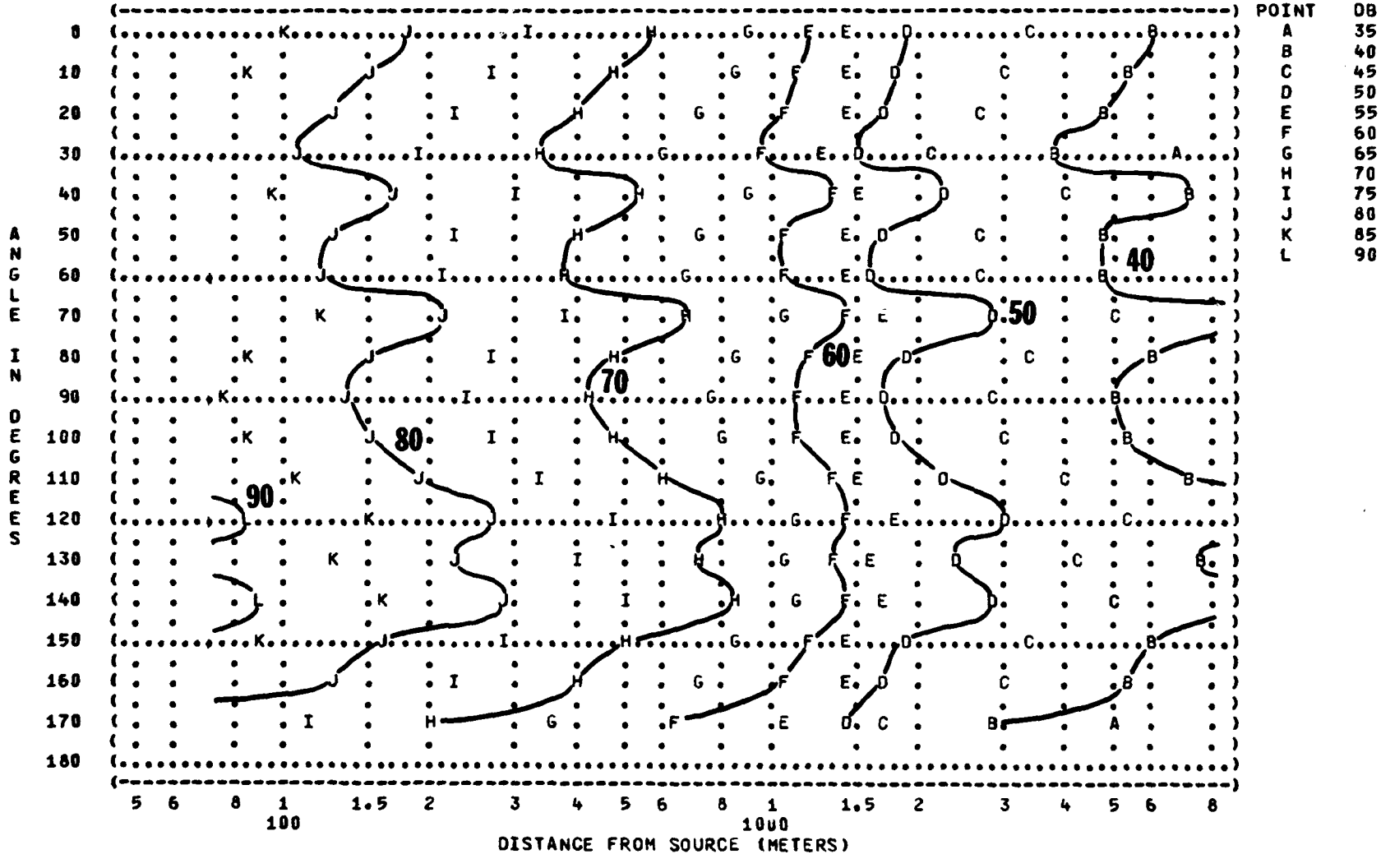


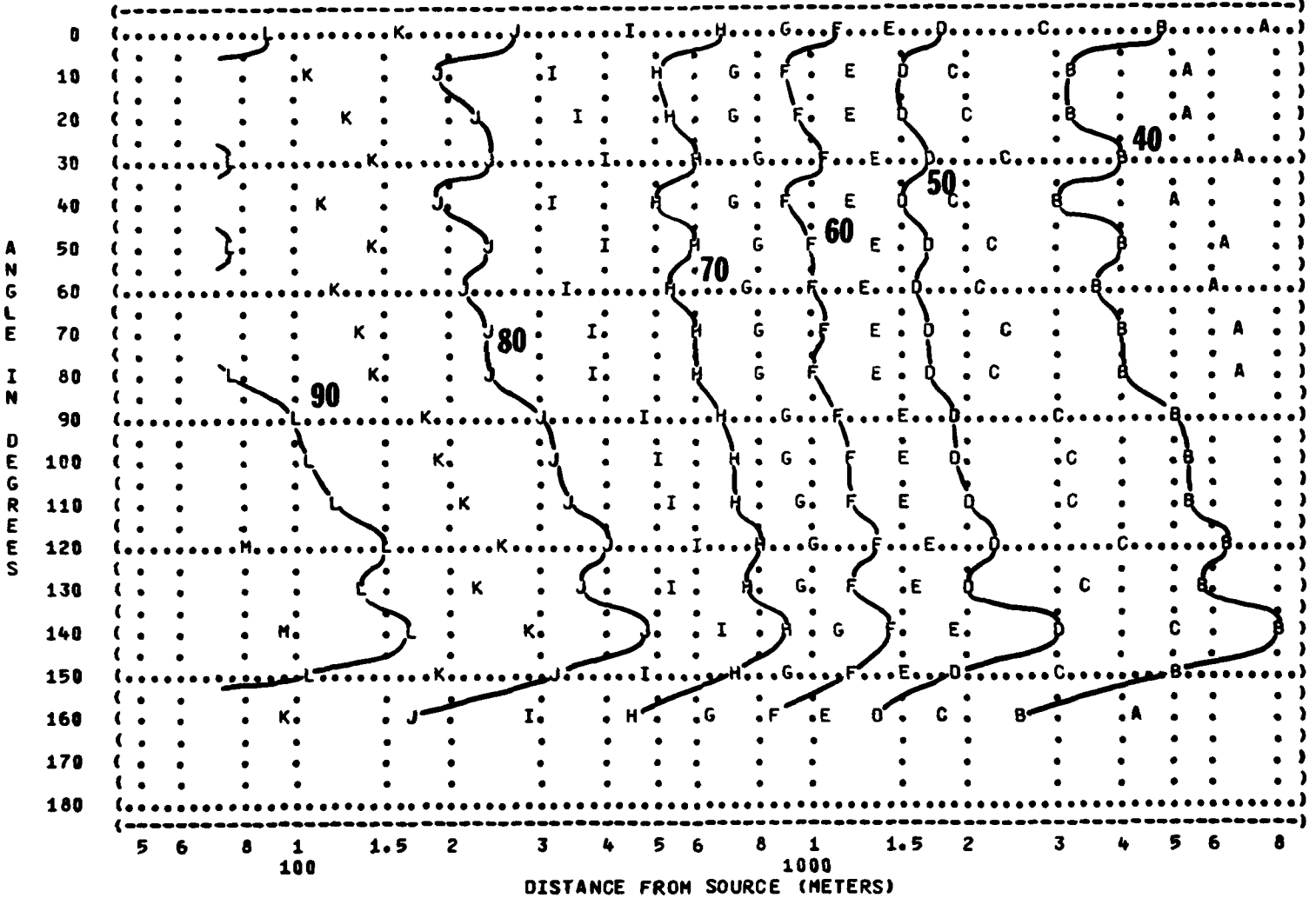
FIGURE 10: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 63 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT: KC-135A AIRCRAFT IN THE (MODIFIED) AF32A-52 NOISE SUPPRESSOR FAR-FIELD NOISE

OPERATION: MILITARY POWER (DRY), 96% RPM, INBOARD ENGINE WITH SUPPRESSOR MOUNTED

METEOROLOGY: TEMP = 15 C; BAR PRESS = .760 M HG; REL HUMID = 70 %

IDENTIFICATION: OMEGA 1.4; TEST 77-726-001; RUN 02; 14 SEP 78; PAGE 19



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95

FIGURE: 10

SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
125 HZ OCTAVE BAND

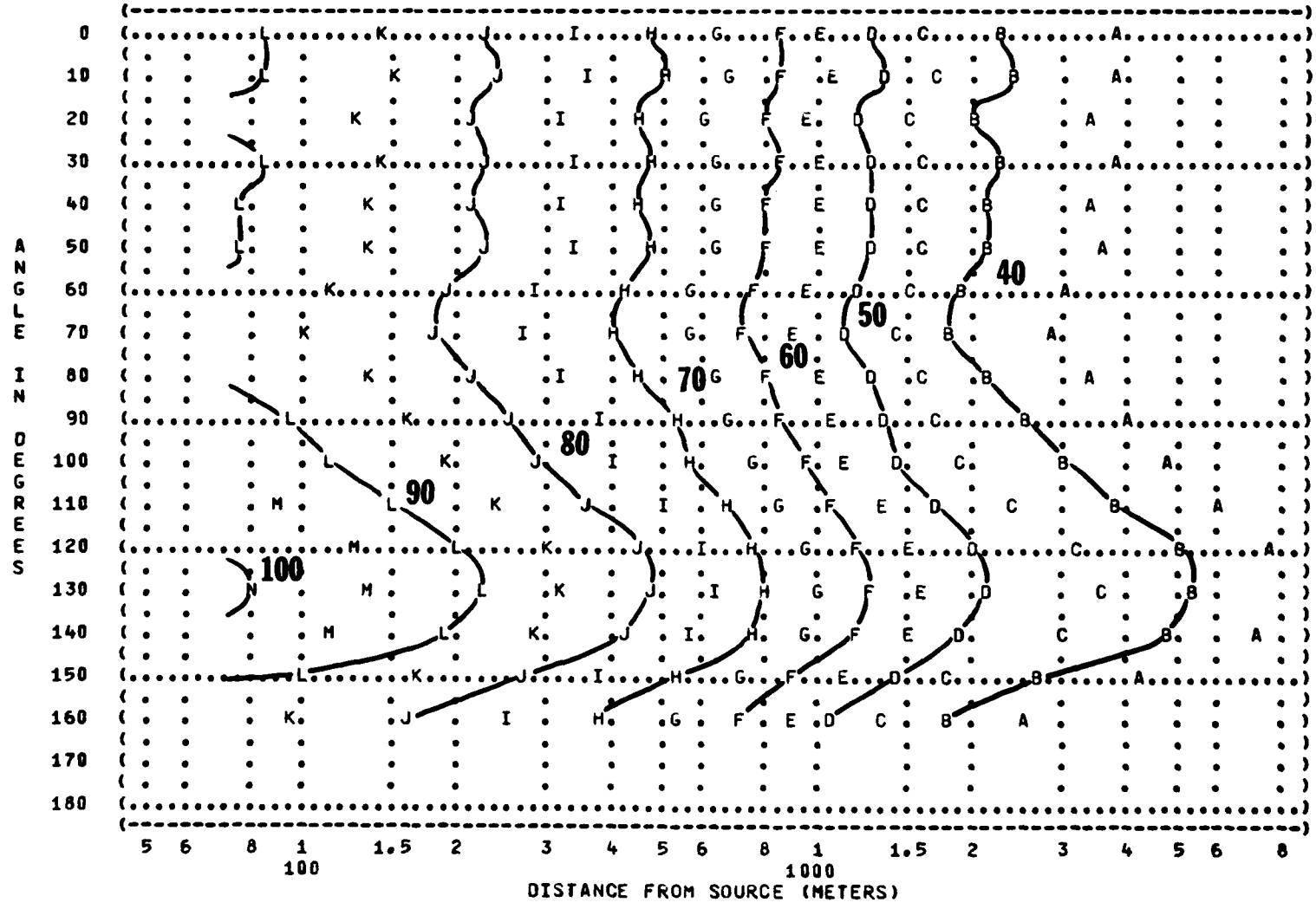
NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE
(MODIFIED) AF32A-52
NOISE SUPPRESSOR
FAR-FIELD NOISE

OPERATION:
MILITARY POWER (DRY),
96% RPM, INBOARD ENGINE
WITH SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-001
RUN 02

14 SEP 78



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100

FIGURE: 10

SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
250 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-001
RUN 02
14 SEP 78
PAGE 21

NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE
(MODIFIED) AF32A-52
NOISE SUPPRESSOR
FAR-FIELD NOISE

OPERATION:
MILITARY POWER (DRY),
96% RPM, INBOARD ENGINE
WITH SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100

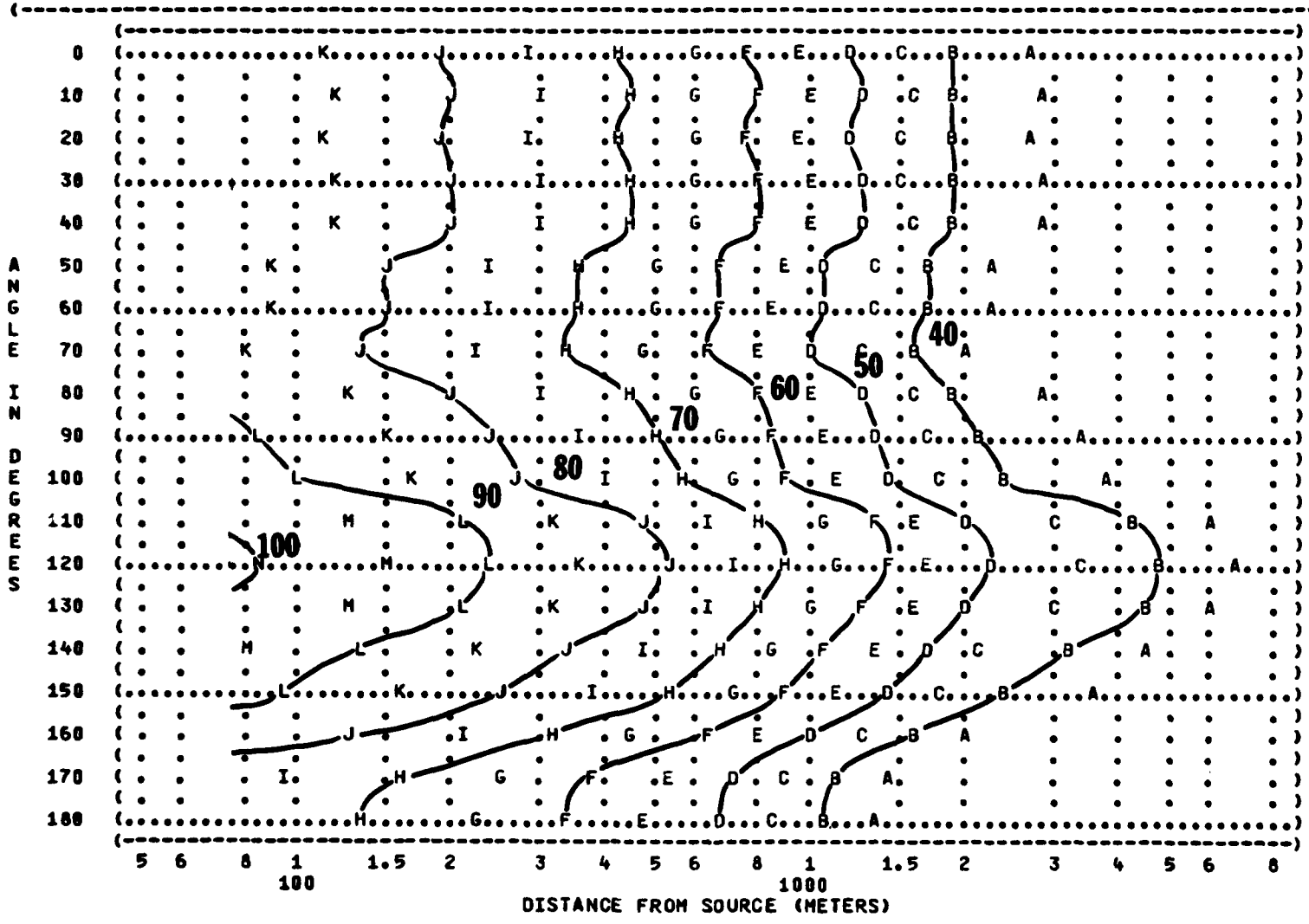


FIGURE 10: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 500 HZ OCTAVE BAND

IDENTIFICATION: OMEGA 1.4 TEST 77-726-001 RUN 02 14 SEP 78 PAGE 22

NOISE SOURCE/SUBJECT: KC-135A AIRCRAFT IN THE (MODIFIED) AF32A-52 NOISE SUPPRESSOR FAR-FIELD NOISE

OPERATION: MILITARY POWER (DRY), 96% RPM, INBOARD ENGINE WITH SUPPRESSOR MOUNTED

METEOROLOGY: TEMP = 15 C, BAR PRESS = .760 M HG, REL HUMID = 70 %

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95

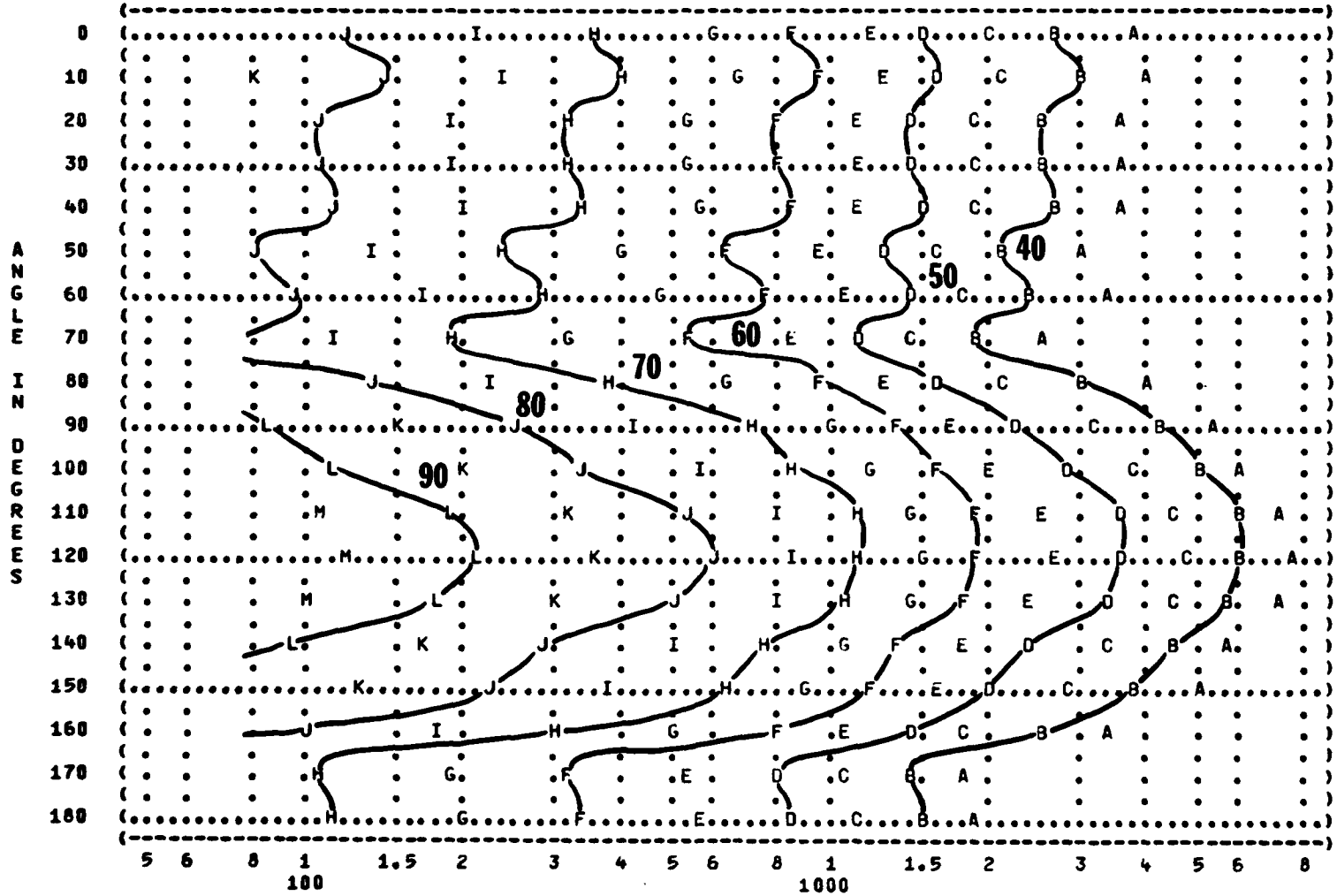


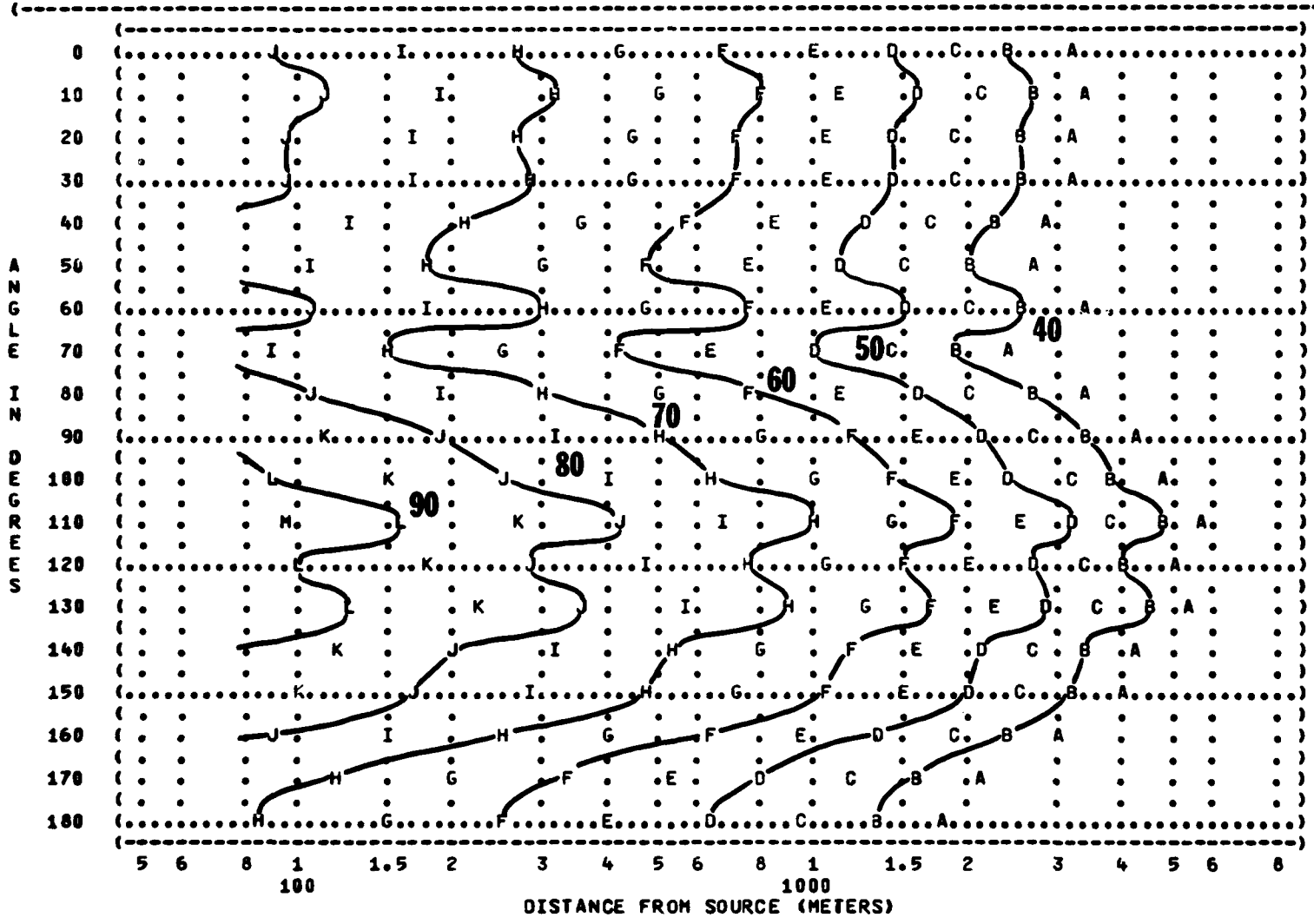
FIGURE 10: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 1000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT: KC-135A AIRCRAFT IN THE (MODIFIED) AF32A-52 NOISE SUPPRESSOR FAR-FIELD NOISE

OPERATION: MILITARY POWER (DRY), 96% RPM, INBOARD ENGINE WITH SUPPRESSOR MOUNTED

METEOROLOGY: TEMP = 15 C, BAR PRESS = .760 M HG, REL HUMID = 70 %

IDENTIFICATION: OMEGA 1.4, TEST 77-726-001, RUN 02, 14 SEP 78



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95

FIGURE 10: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 2000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT: KC-135A AIRCRAFT IN THE (MODIFIED) AF32A-52 NOISE SUPPRESSOR FAR-FIELD NOISE

OPERATION: MILITARY POWER (DRY), 96% RPM, INBOARD ENGINE WITH SUPPRESSOR MOUNTED

METEOROLOGY: TEMP = 15 C; BAR PRESS = .760 M HG; REL HUMID = 70 %

IDENTIFICATION: OMEGA 1.4; TEST 77-726-001; RUN 02; 14 SEP 78; PAGE 24

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90

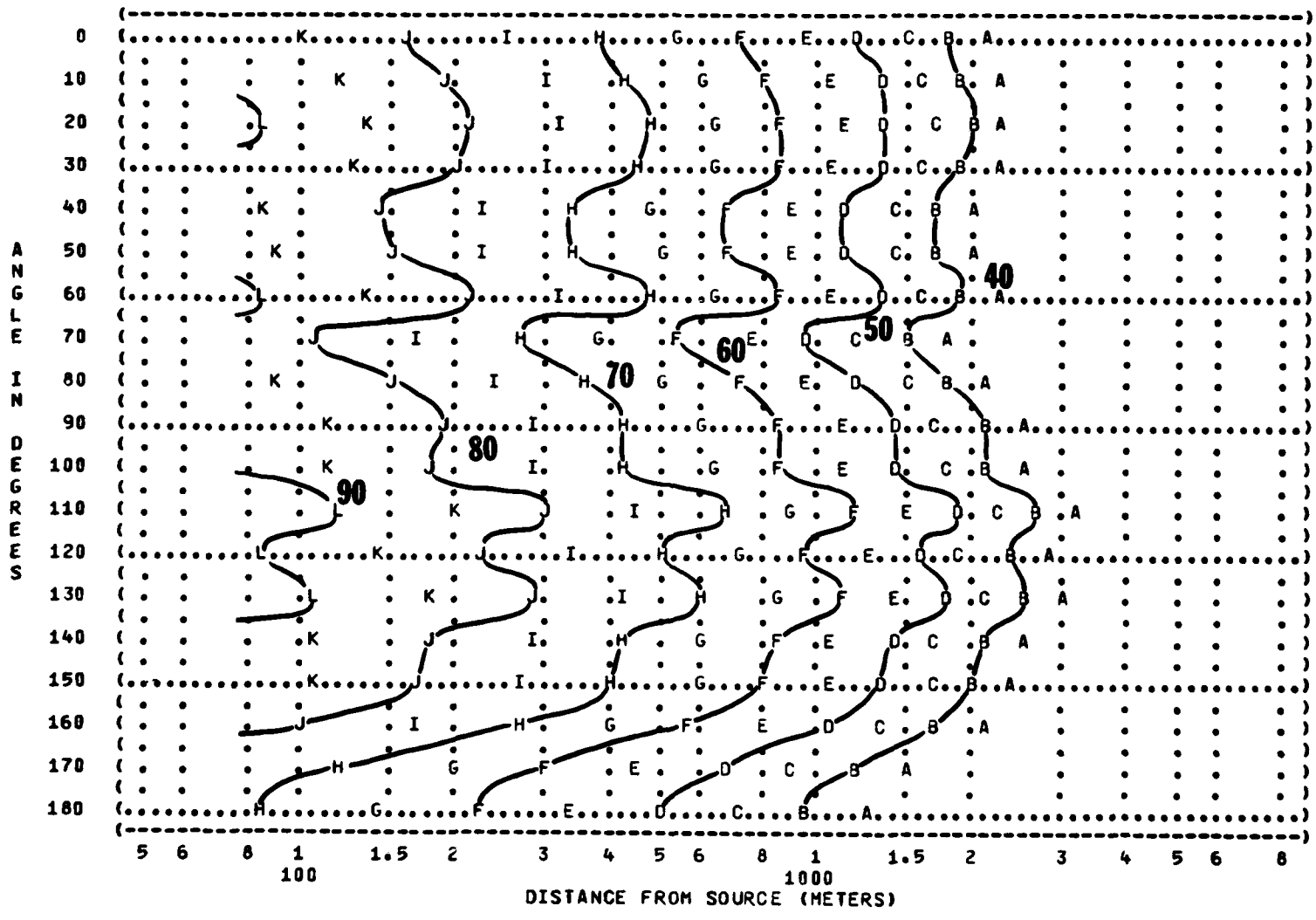


FIGURE 10: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 4000 HZ OCTAVE BAND

IDENTIFICATION: OMEGA 1.4 TEST 77-726-001 RUN 02 14 SEP 78 PAGE 25

NOISE SOURCE/SUBJECT: KC-135A AIRCRAFT IN THE (MODIFIED) AF32A-52 NOISE SUPPRESSOR FAR-FIELD NOISE

OPERATION: MILITARY POWER (DRY), 96% RPM, INBOARD ENGINE WITH SUPPRESSOR MOUNTED

METEOROLOGY: TEMP = 15 C, BAR PRESS = .760 M HG, REL HUMID = 70 %

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85

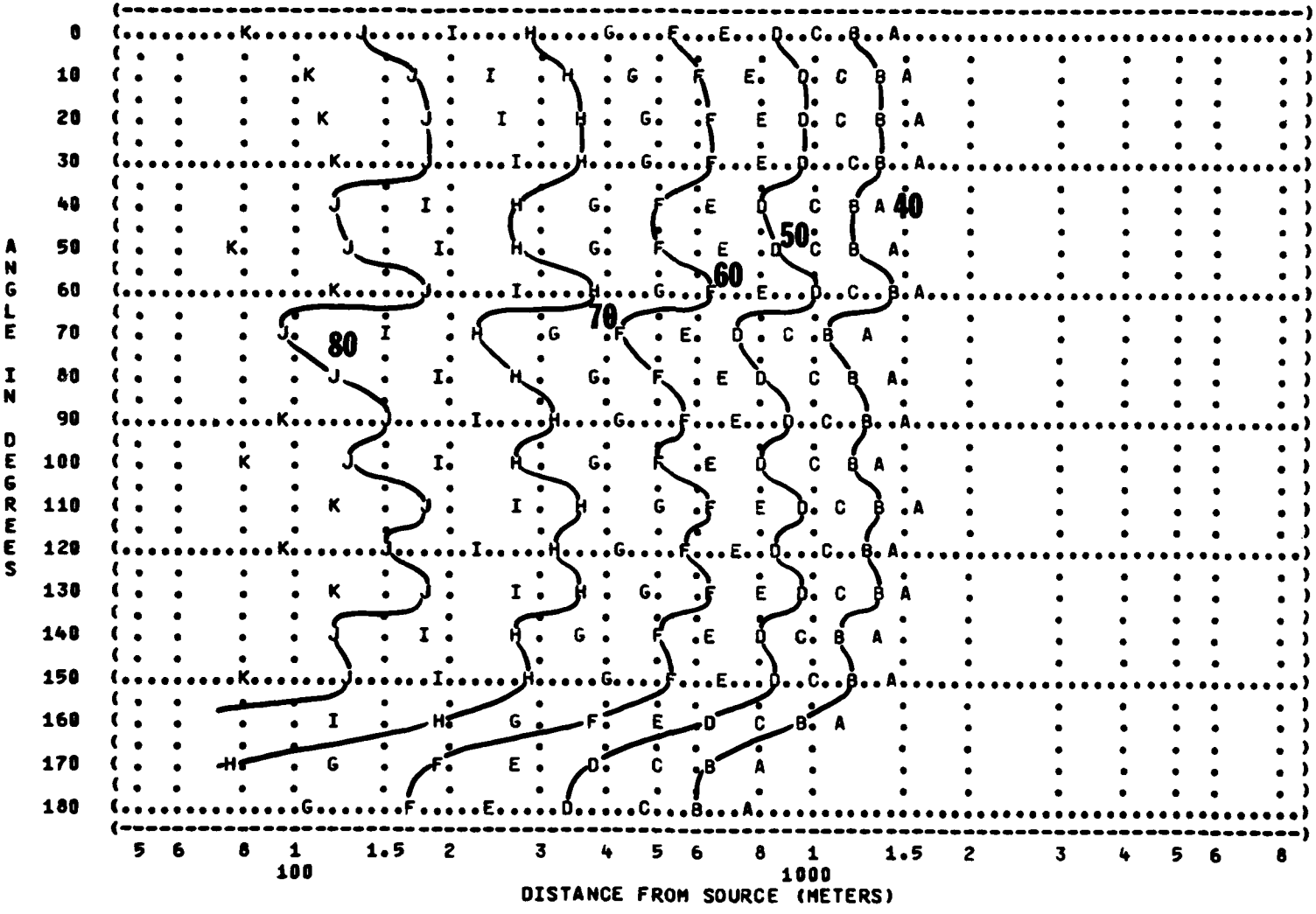


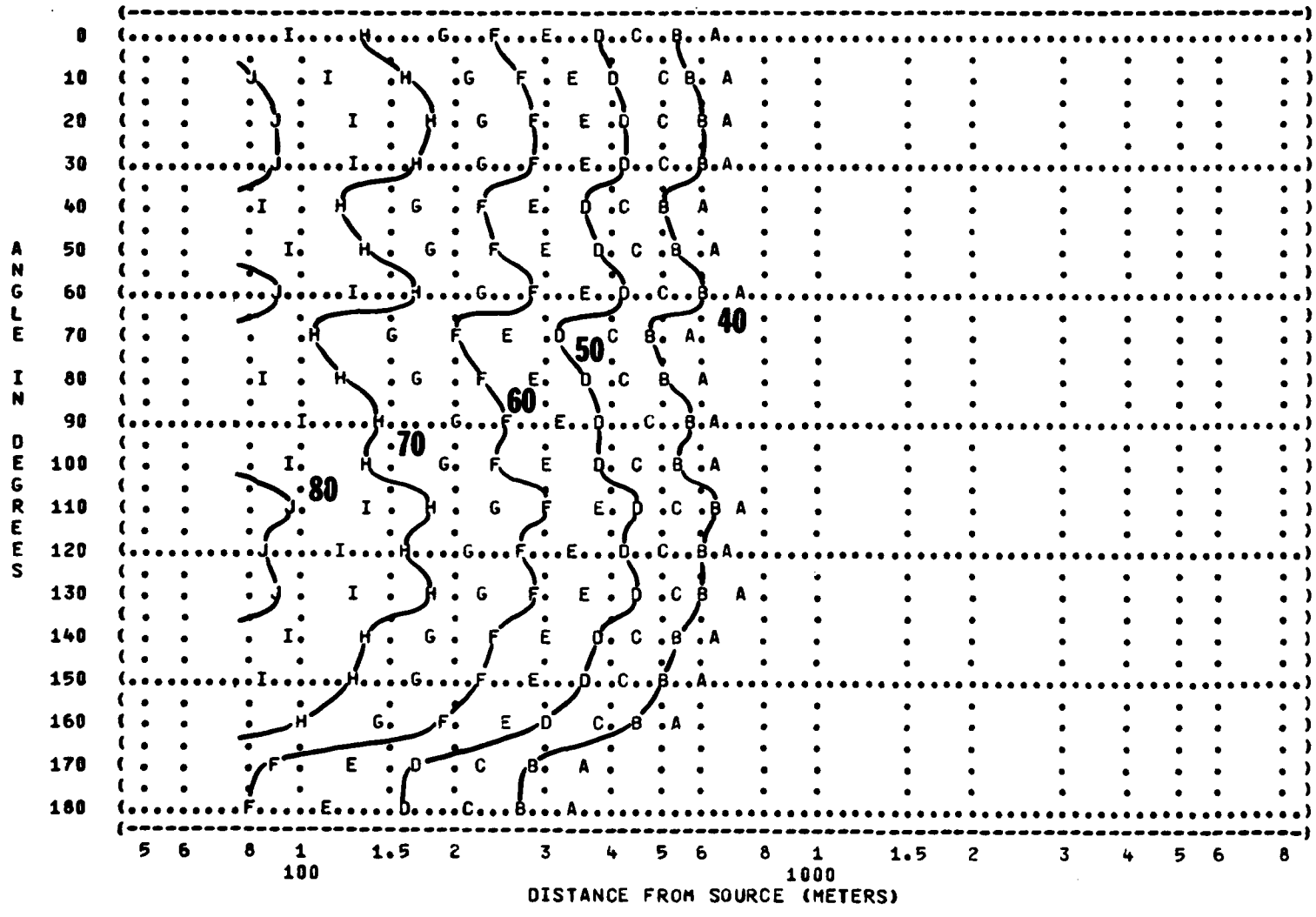
FIGURE 10: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 8000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT: KC-135A AIRCRAFT IN THE (MODIFIED) AF32A-52 NOISE SUPPRESSOR FAR-FIELD NOISE

OPERATION: MILITARY POWER (DRY), 96% RPM, INBOARD ENGINE WITH SUPPRESSOR MOUNTED

METEOROLOGY: TEMP = 15 C; BAR PRESS = .760 M HG; REL HUMID = 70 %

IDENTIFICATION: OMEGA 1.4; TEST 77-726-001; RUN 02; 14 SEP 78; PAGE 26



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80

FIGURE: 10 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 31.5 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT: KC-135A AIRCRAFT IN THE (MODIFIED) AF32A-52 NOISE SUPPRESSOR FAR-FIELD NOISE

OPERATION: MILITARY POWER (WET), 96% RPM, INBOARD ENGINE WITH SUPPRESSOR MOUNTED

METEOROLOGY: TEMP = 15 C; BAR PRESS = .760 M HG; REL HUMID = 70 %

IDENTIFICATION: OMEGA 1.4; TEST 77-726-001; RUN 03; 14 SEP 78; PAGE 18

POINT	DB
A	40
B	45
C	50
D	55
E	60
F	65
G	70
H	75
I	80
J	85
K	90
L	95

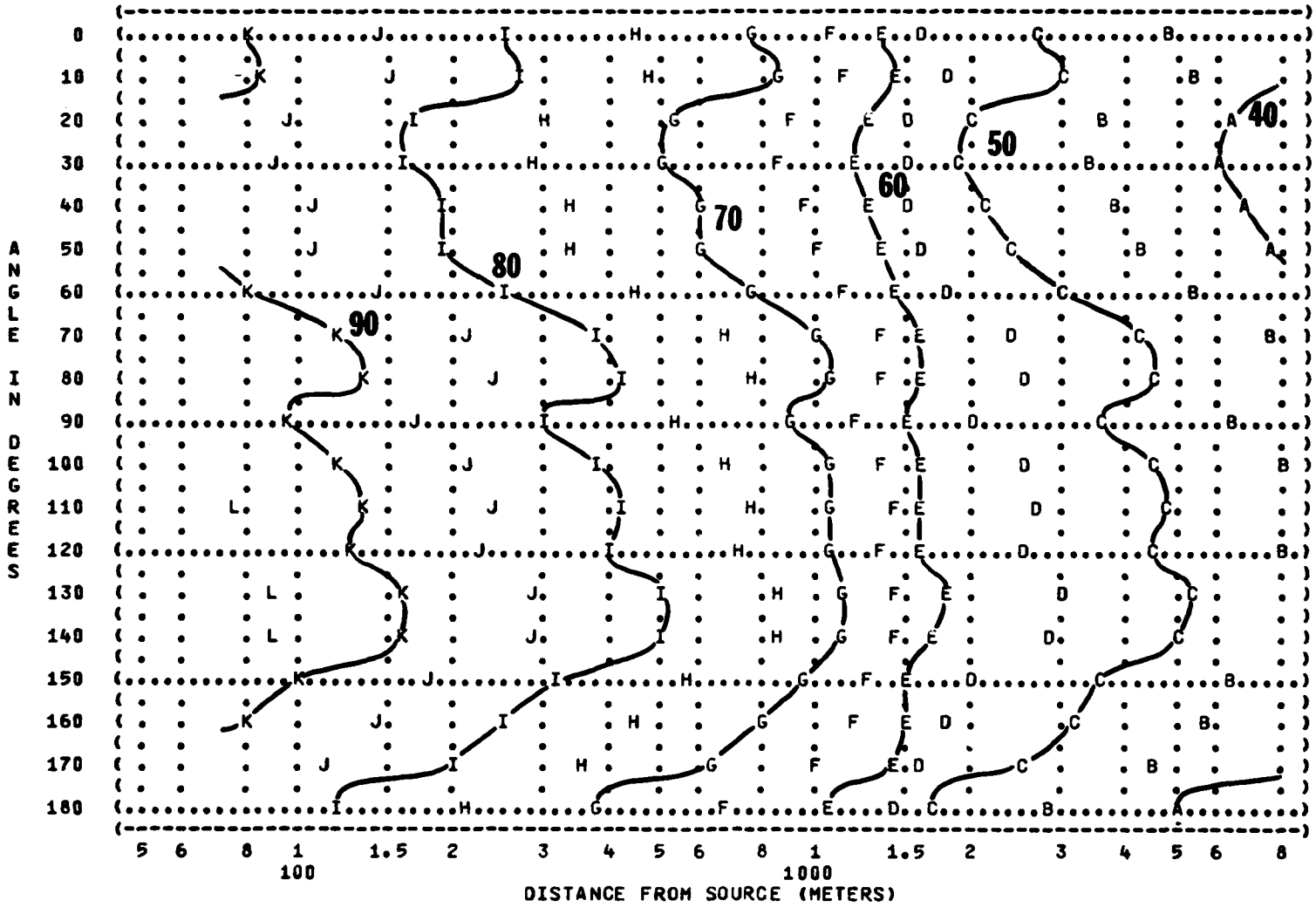


FIGURE 10: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 63 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT: KC-135A AIRCRAFT IN THE (MODIFIED) AF32A-52 NOISE SUPPRESSOR FAR-FIELD NOISE

OPERATION: MILITARY POWER (WET), 96% RPM, INBOARD ENGINE WITH SUPPRESSOR MOUNTED

METEOROLOGY: TEMP = 15 C; BAR PRESS = .760 M HG; REL HUMID = 70 %

IDENTIFICATION: OMEGA 1.4; TEST 77-726-001; RUN 03; 14 SEP 78

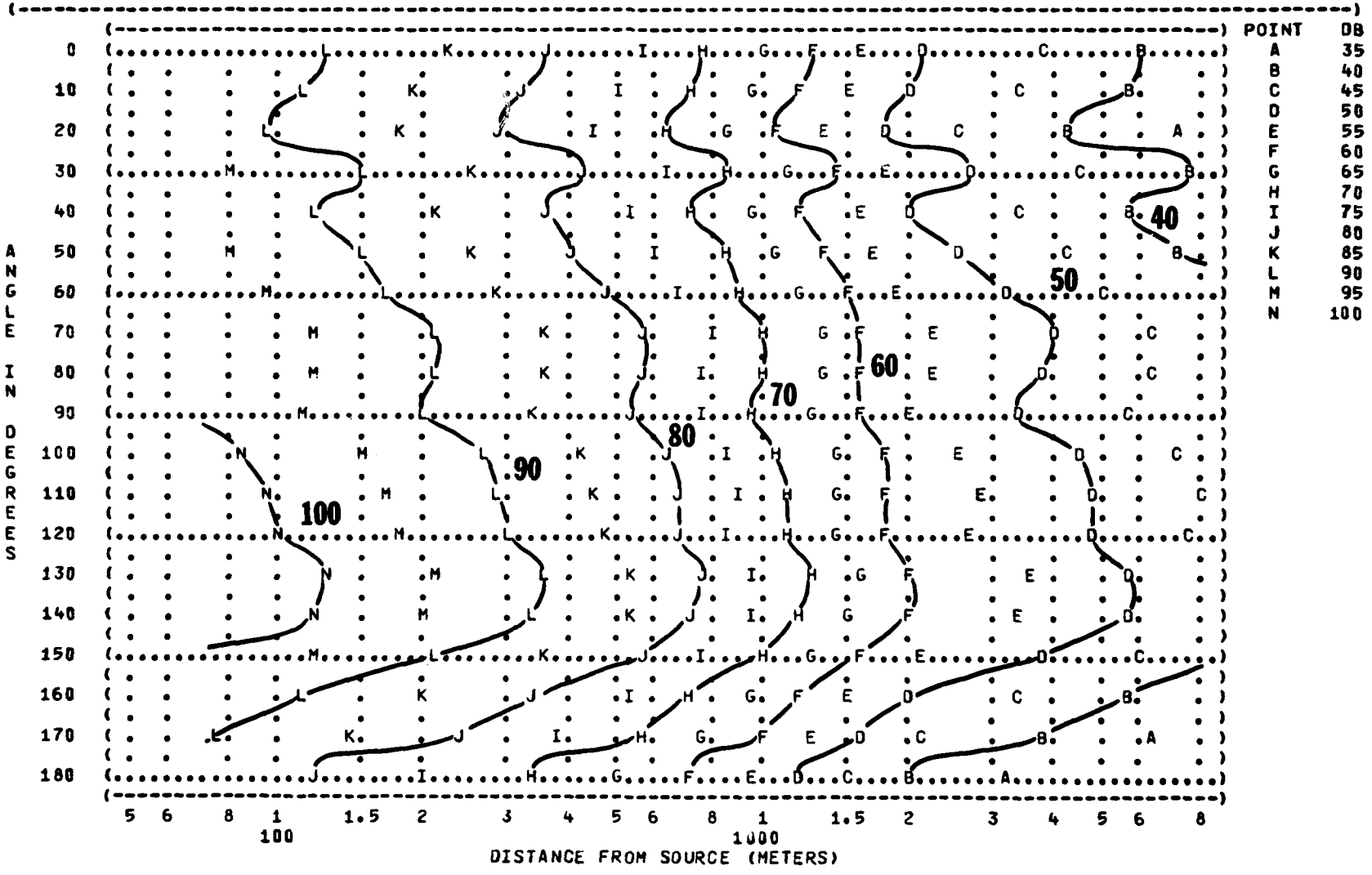


FIGURE 10: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 125 HZ OCTAVE BAND

IDENTIFICATION: OMEGA 1.4 TEST 77-726-001 RUN 03 14 SEP 78 PAGE 20

NOISE SOURCE/SUBJECT: KC-135A AIRCRAFT IN THE (MODIFIED) AF32A-52 NOISE SUPPRESSOR FAR-FIELD NOISE

OPERATION: MILITARY POWER (WET), 96% RPM, INBOARD ENGINE WITH SUPPRESSOR MOUNTED

METEOROLOGY: TEMP = 15 C; BAR PRESS = .760 M HG; REL HUMID = 70 %

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100
O	105

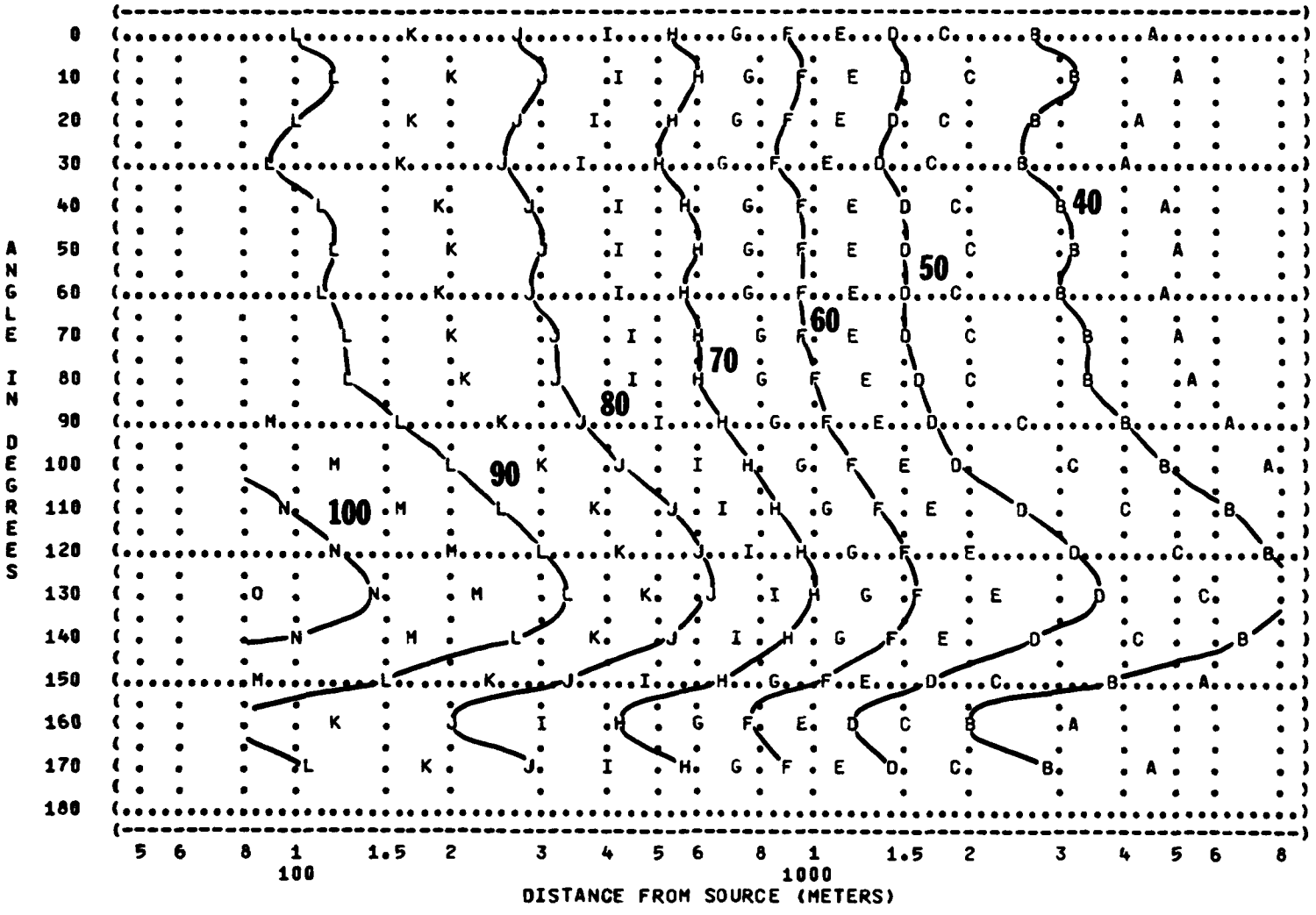


FIGURE: 10

SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
250 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE
(MODIFIED) AF32A-52
NOISE SUPPRESSOR
FAR-FIELD NOISE

OPERATION:
MILITARY POWER (WET),
96% RPM, INBOARD ENGINE
WITH SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-C01
RUN 03

14 SEP 78

PAGE 21

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100

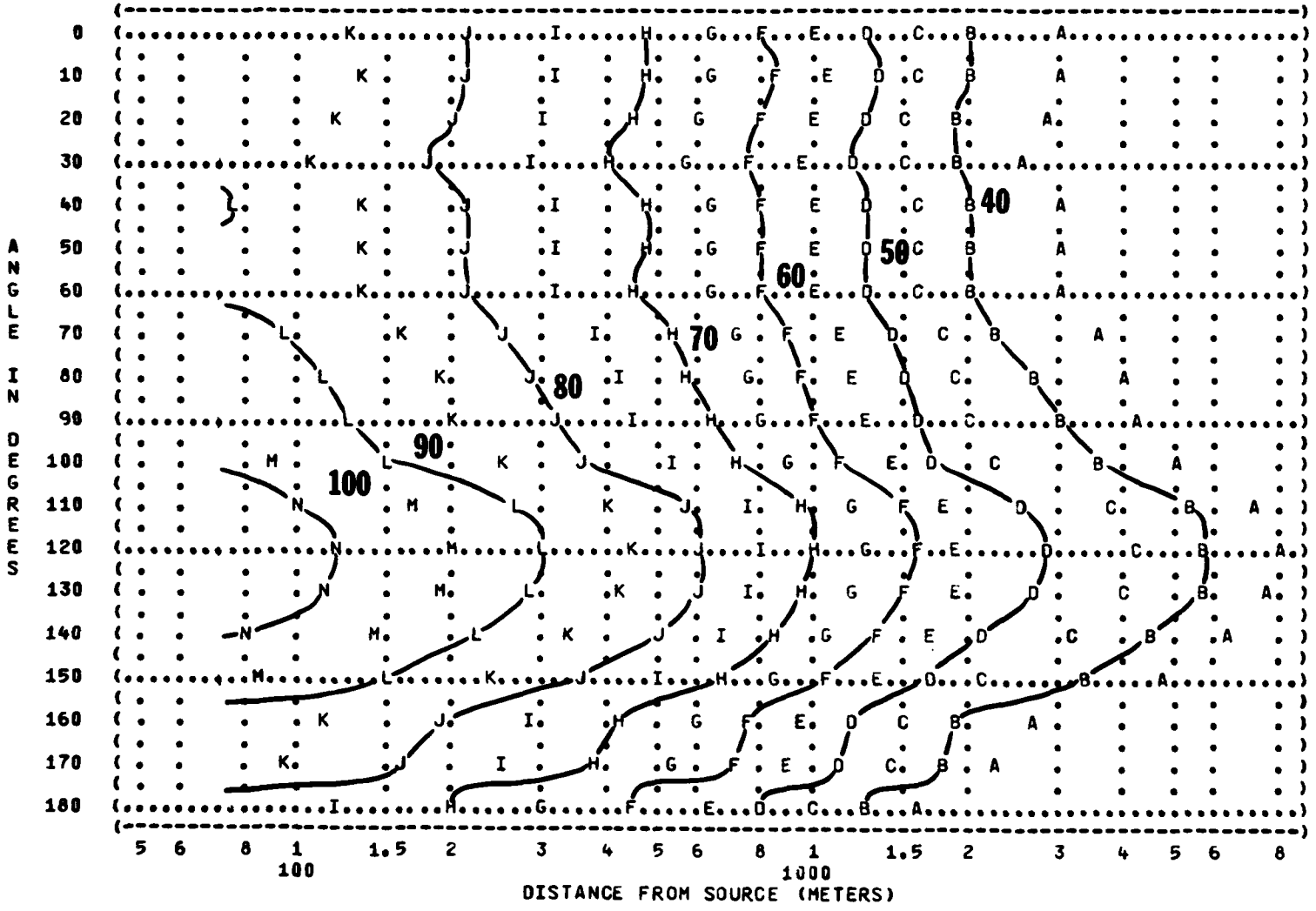


FIGURE: 10

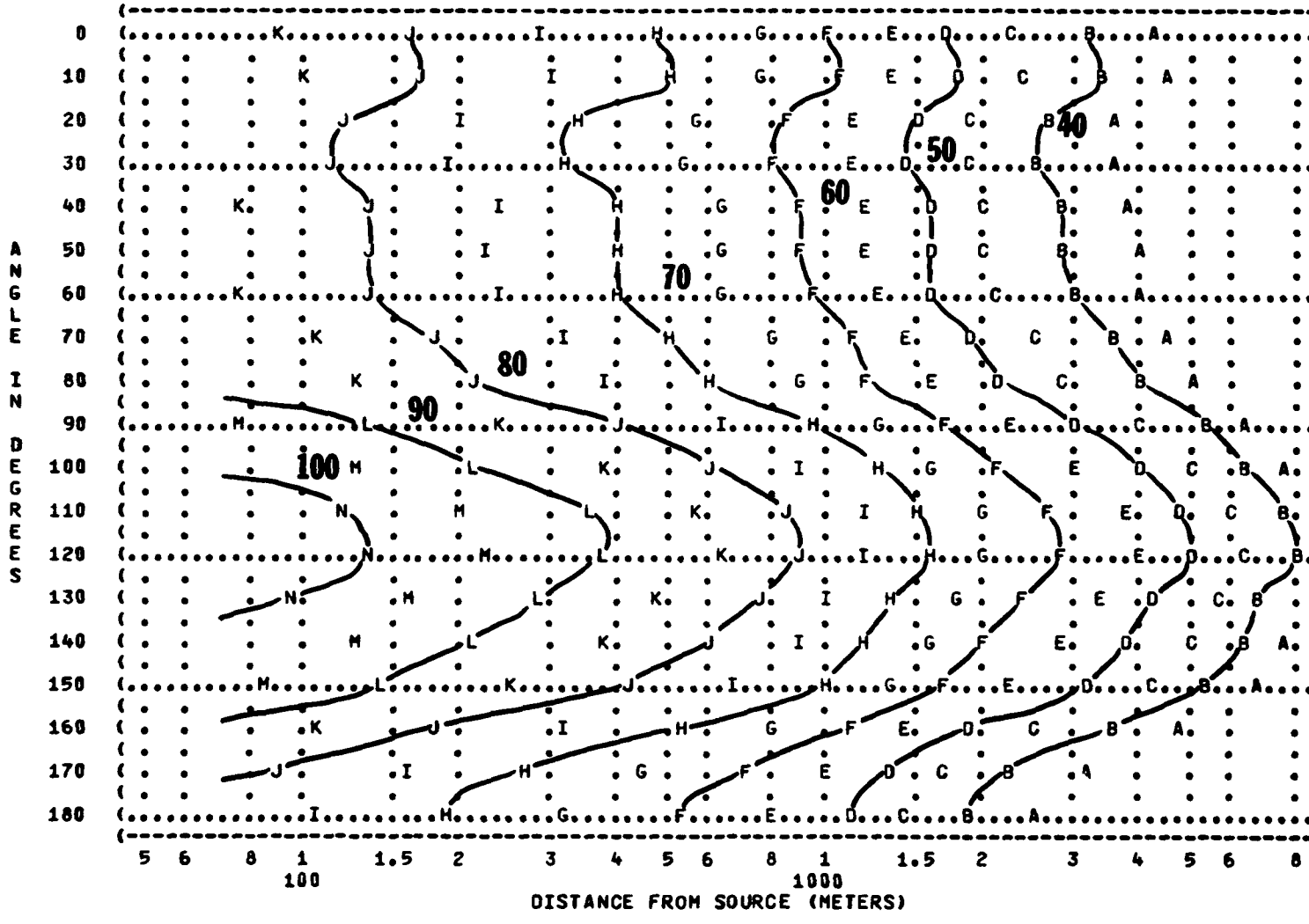
SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
500 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 77-726-001
RUN 03
14 SEP 78
PAGE 22

NOISE SOURCE/SUBJECT:
KC-135A AIRCRAFT IN THE
(MODIFIED) AF32A-52
NOISE SUPPRESSOR
FAR-FIELD NOISE

OPERATION:
MILITARY POWER (WET),
96% RPM, INBOARD ENGINE
WITH SUPPRESSOR MOUNTED

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100

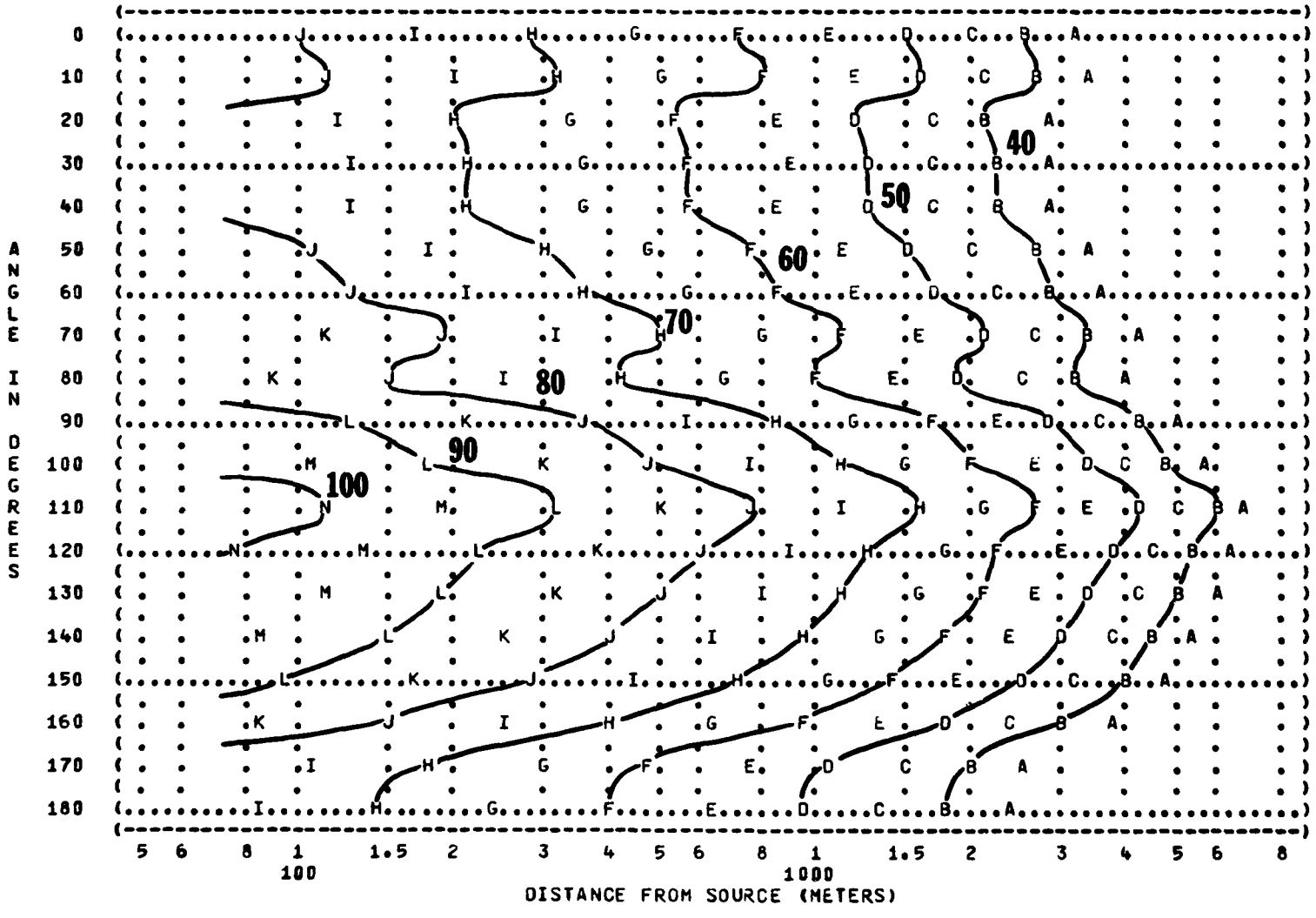
FIGURE 10: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 1000 HZ OCTAVE BAND

IDENTIFICATION: OMEGA 1.4 TEST 77-726-001 RUN 03 14 SEP 78 PAGE 23

NOISE SOURCE/SUBJECT: KC-135A AIRCRAFT IN THE (MODIFIED) AF32A-52 NOISE SUPPRESSOR FAR-FIELD NOISE

OPERATION: MILITARY POWER (WET), 96% RPM, INBOARD ENGINE WITH SUPPRESSOR MOUNTED

METEOROLOGY: TEMP = 15 C, BAR PRESS = .760 M HG, REL HUMID = 70 %



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100

FIGURE 10: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 2000 HZ OCTAVE BAND

IDENTIFICATION: OMEGA 1.4 TEST 77-726-001 RUN 03 14 SEP 78 PAGE 24

NOISE SOURCE/SUBJECT: KC-135A AIRCRAFT IN THE (MODIFIED) AF32A-52 NOISE SUPPRESSOR FAR-FIELD NOISE

OPERATION: MILITARY POWER (WET), 96% RPM, INBOARD ENGINE WITH SUPPRESSOR MOUNTED

METEOROLOGY: TEMP = 15 C, BAR PRESS = .760 M HG, REL HUMID = 70 %

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100

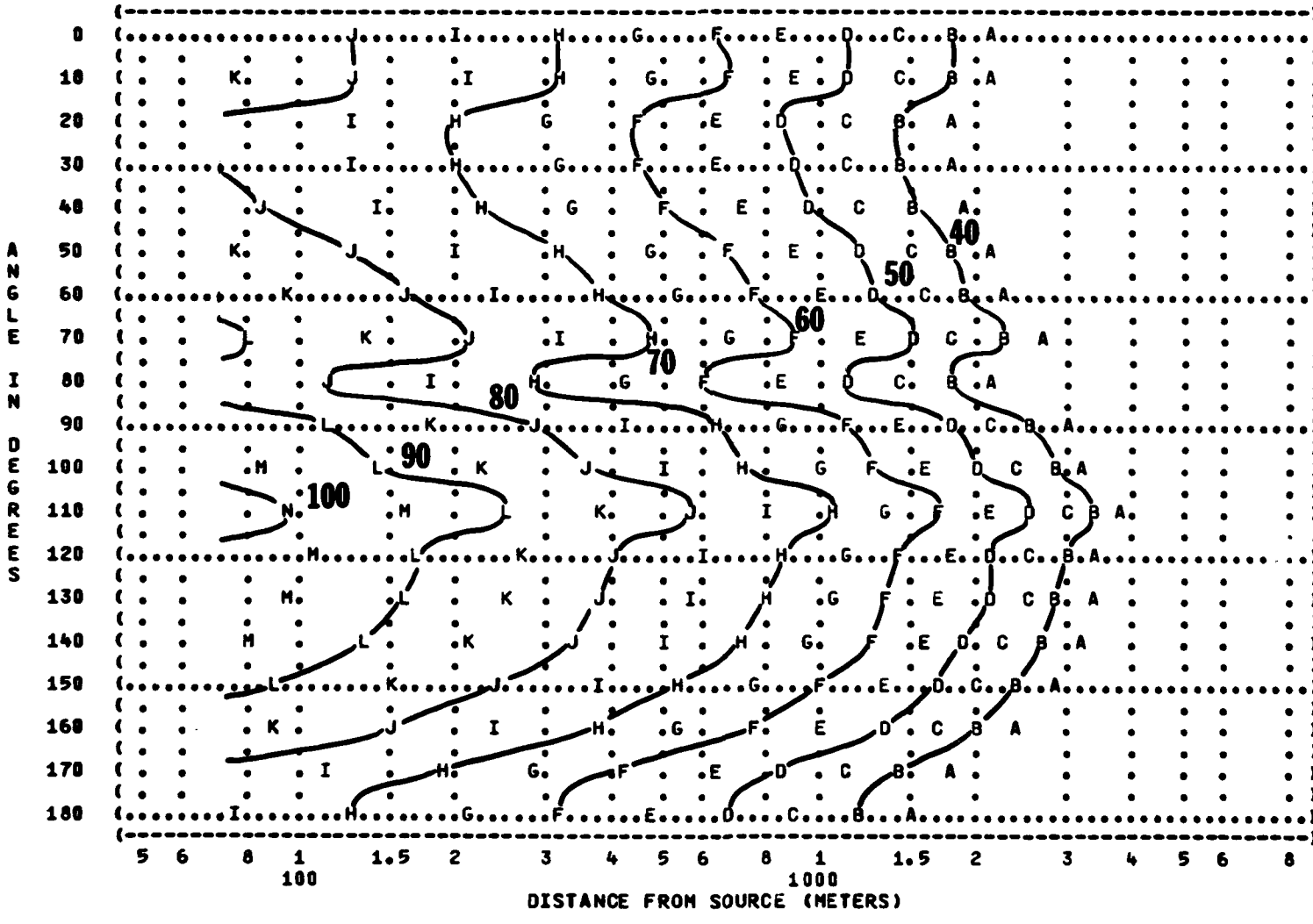


FIGURE 10: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 4000 HZ OCTAVE BAND

IDENTIFICATION: OMEGA 1.4 TEST 77-726-001 RUN 03 14 SEP 78 PAGE 25

NOISE SOURCE/SUBJECT: KC-135A AIRCRAFT IN THE (MODIFIED) AF32A-52 NOISE SUPPRESSOR FAR-FIELD NOISE

OPERATION: MILITARY POWER (WET), 96% RPM, INBOARD ENGINE WITH SUPPRESSOR MOUNTED

METEOROLOGY: TEMP = 15 C, BAR PRESS = .760 M HG, REL HUMID = 70 %

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95

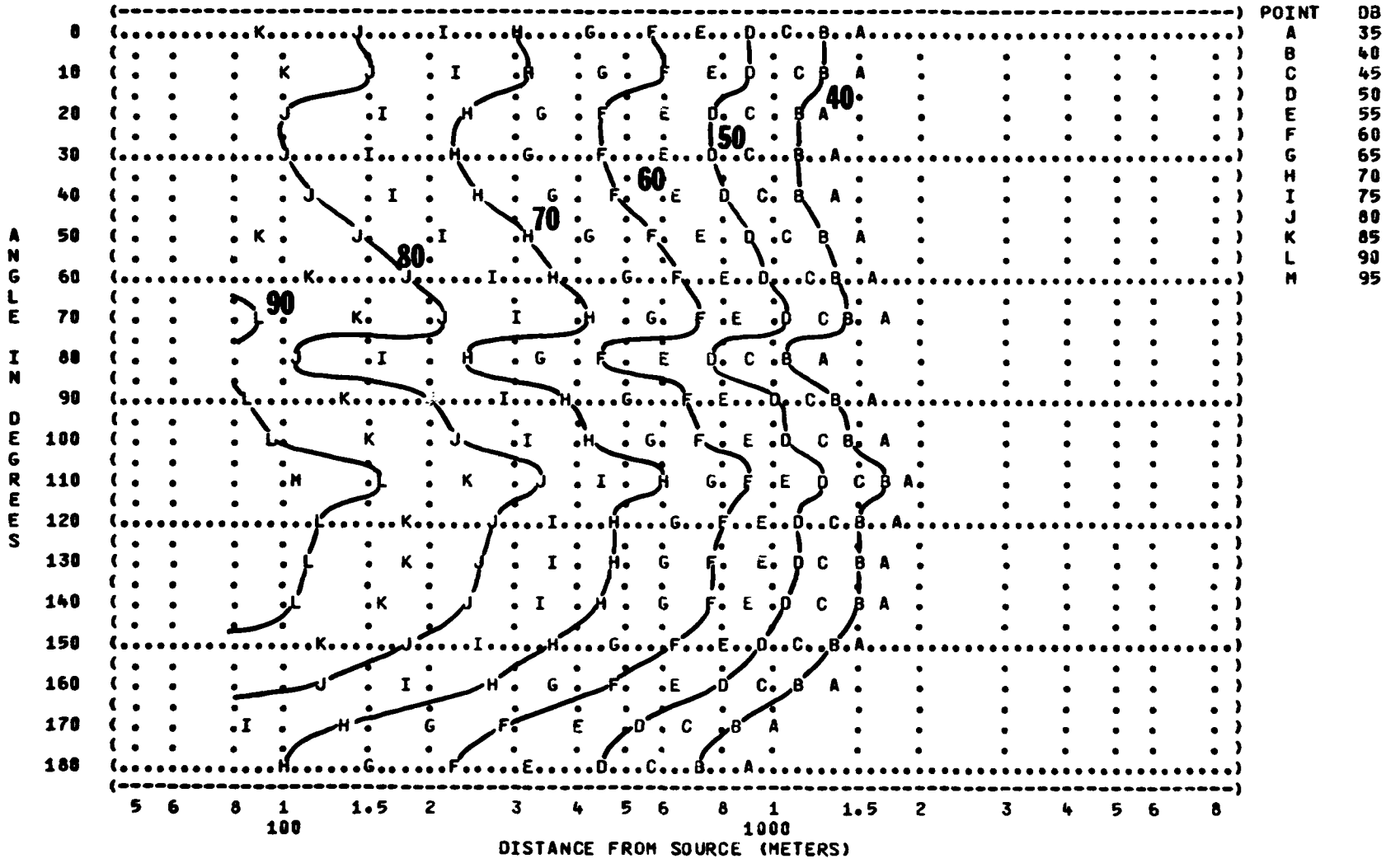


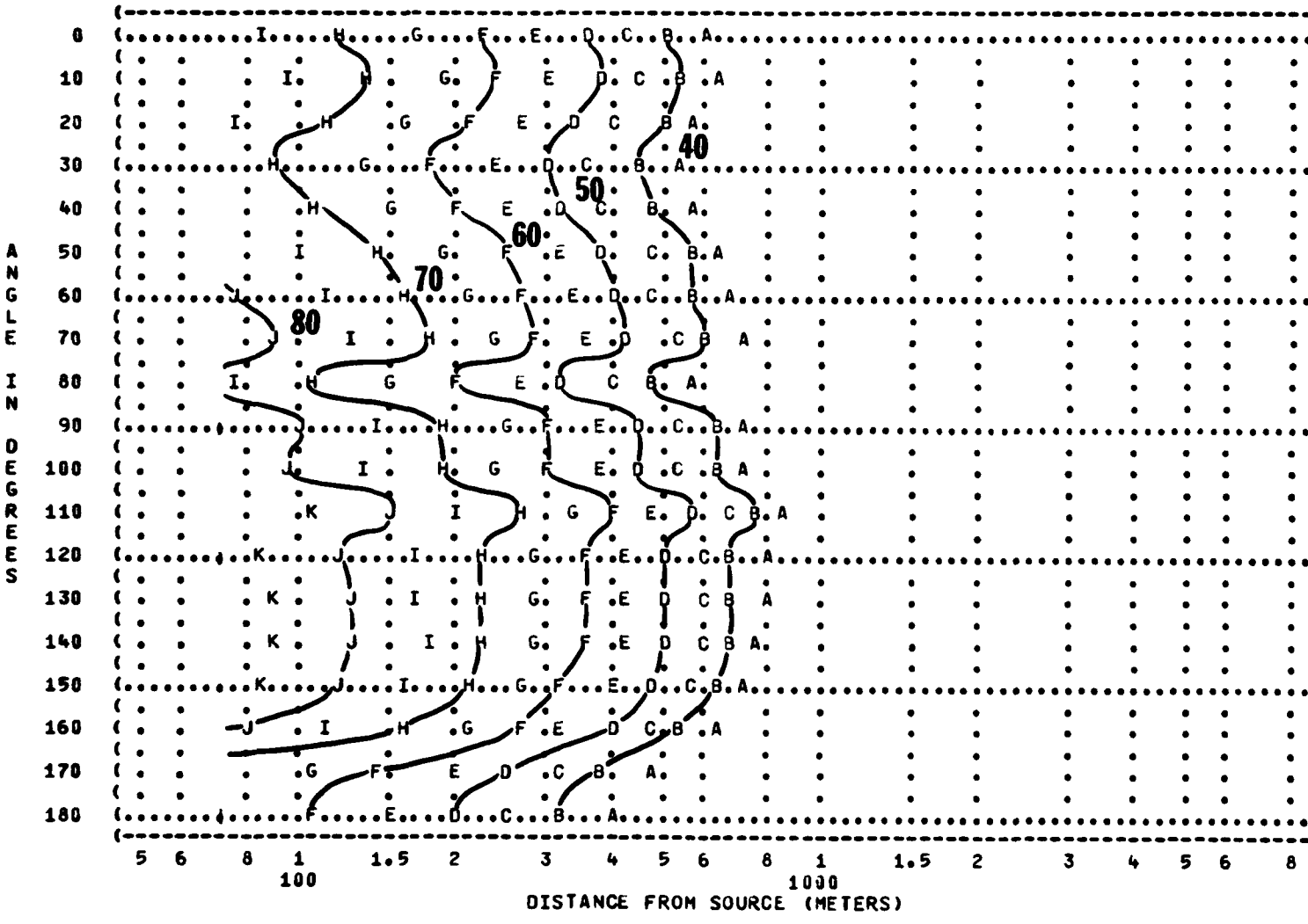
FIGURE 10: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 8000 HZ OCTAVE BAND

IDENTIFICATION: OMEGA 1.4 TEST 77-726-C01 RUN 03 14 SEP 78 PAGE 26

NOISE SOURCE/SUBJECT: KC-135A AIRCRAFT IN THE (MODIFIED) AF32A-52 NOISE SUPPRESSOR FAR-FIELD NOISE

OPERATION: MILITARY POWER (WET), 96% RPM, INBOARD ENGINE WITH SUPPRESSOR MOUNTED

METEOROLOGY: TEMP = 15 C, BAR PRESS = .760 M HG, REL HUMID = 70 %



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85

*U.S.Government Printing Office: 1979 — 657-084/292